KMCT
COLLEGE OF NURSING
Recognized by Indian Nursing Council & Kerala Nurses and Midwives Council & affiliated to Kerala University of Health Sciences

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the information in the attachment documents is verified by me and is true to the best of my knowledge.

KMCT Medical College Campus,Manassery,Mukkom,Kozhikode-673602,Kerala
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Email nursing@kmct.edu.in Website: https://www.kmctnursingcollege.org/

2.5.4

List of opportunities provided for the students for midcourse improvement of performance in the examinations

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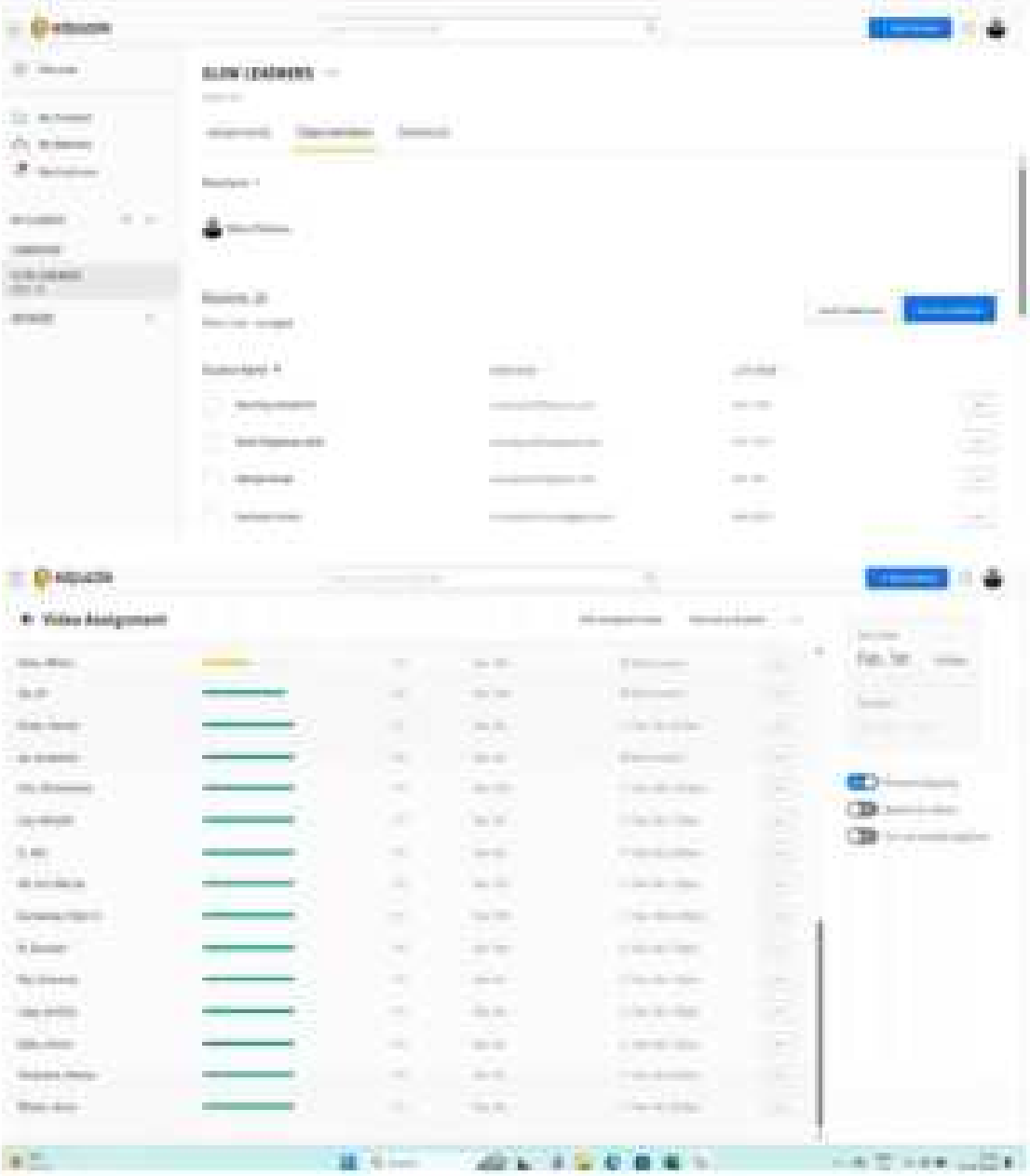
List of opportunities provided for the students for midcourse improvement of performance in the examinations

1. Retest
2. Simplified notes
3. Previous question paper and answers discussion
4. Unit wise important question discussion
5. Counselling section for students
6. Small Group Mentorship
7. Interactive Learning with Edpuzzle
8. Quality Learning Materials
9. Remedial Classes and Clarifications
10. Peer Group Teaching
11. Make up assignments



This is to certify that this sessional diary register for 13th Batch BSc Nursing students (2020-2024) contains pages continuously from 1-200.

Teena Mathew

Shaji. V.P

Remedial classes for slow learners

2021-2022

ANATOMY

S.No	Name	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1)	Nagil	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
2)	Sherf	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
3	Bilal	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
4	Saleh	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
5	Sam	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
6	Shabnam	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
7	Ashfat	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
8	Asuim	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
9	Anusty	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
10	Shalquil	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
11	Chand	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
		Unit 1 [illegible]	Unit [illegible]	Unit [illegible]	Unit (2)	Unit 5	Unit (6)	Unit (8)	Unit (2) (3)	Unit (5)	Revision [illegible]	Revision [illegible]	QP discussion

Name of faculty Mr Rizwi

PHYSIOLOGY

Sl No	Name	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1)	Nasif	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2)	Afeef	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3)	Rifal	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4)	Swalih	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5)	Som	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6)	Shalam	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7)	Ashfak	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8)	Arun	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9)	Aswathy	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10)	Shahise	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11)	Shahid	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		Unit [illegible]	Unit [illegible]	Unit [illegible]	Unit [illegible]	Unit [illegible]	Unit [illegible]	Unit [illegible]	Unit [illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Name of faculty Mr Shasi

MICROBIOLOGY

S. No	Name	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.	Wajid	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3.	Bilal	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.	Sana	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11.	Shakeel	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Name of Faculty:
Signature: [illegible]

Name of Faculty Ms. Naeema [illegible]

[illegible]

NUTRITION

Sl.No	Name											
1.	Mayil											
2.	Afzal											
3.	Fahad											
4.	Saurabh											
5.	[illegible]											
6.	[illegible]											
7.	Sahil											
8.	Arun											
9.	Sandip											
10.	Shubham											
11.	Rahul											

Name of faculty:
Signature:

Name of faculty: Mr. Fateh Sahu

82 BIOCHEMISTRY

Sl. No.	Name	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	Majid	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	Afzal	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	Bilal	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	Sadak	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6	Shadan	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7	Ashfak	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8	Hasnain	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9	Anoothy	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10	Shafique	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11	Shahid	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Name of Faculty Mr. Rami R

[illegible] PSYCHOLOGY

Sl. No	Name	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	Najil	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	Nihal	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	Swalih	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5	Sam	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7	Akhil	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8	Anson	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9	Aswathy	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Name of faculty [illegible]

16 FUNDAMENTALS OF NURSING

Sl. No	Name
1	Nayif
2	Afrif
3	Bilal
4	Swalih
5	Sinu
6	Shahan
7	Ashfak
8	Aswin
9	Aswathy
10	Shahana
11	Fuhad

Name of faculty :

Signature :

II nd YEAR

2nd year

MEDICAL NURSING

Name	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 7	Unit 8	Unit 9	Unit 10			
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sajid	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
Alaaf	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
Sam	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
Bilal	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
Shahid	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
Shaliqur	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
Aasin	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
Asadby	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
Shaalam	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
Auwaib	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
Ashfak	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]

Name of faculty:

Signature: [signature]

[signature] [stamp]

20 SURGICAL NURSING

S.No	Name	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	Najil	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	Abdul	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	Sam	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	Bilal	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5	Shahid	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6	Shafique	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7	Arun	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8	Anoop	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10	Salih	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11	Ashraf	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		Unit 3	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	[illegible]	[illegible]	[illegible]	[illegible]

Name of faculty Ms. Smitha T.P

[illegible]

COMMUNITY HEALTH NURSING

Sl.no	Name											
1	Akhil											
2	Akhil											
3	Sam											
4	Rahul											
5	Bhaskar											
6	Sivaprasad											
7	Arjun											
8	Abhishek											
9)	Shivalam											
10)	Sivaraj											
11)	Abhishek											

Name of family - Mr. Thiru.

24 PHARMACOLOGY

S.No	Name	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1)	Najit												
2)	Ajeet												
3)	Sonu												
4)	Bilal												
5)	Shahid												
6)	Shaliqual												
7)	Aquin												
8)	Anustay												
9)	Shambam												
10)	Swalih												
11)	Ashfiq												

Name of faculty . Mr. Archana T

24

SOCIOLOGY

S. No.	Name	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	Majil	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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3	Sam	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	Bilal	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5	Shahid	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6	Shafique	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7	Amrin	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8	Awathy	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9	Shivalana	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10	Swalih	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11	Ashfah	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		Unit 1	Unit 2nd	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Name of faculty. Ms. Afsina. P.M

[illegible]

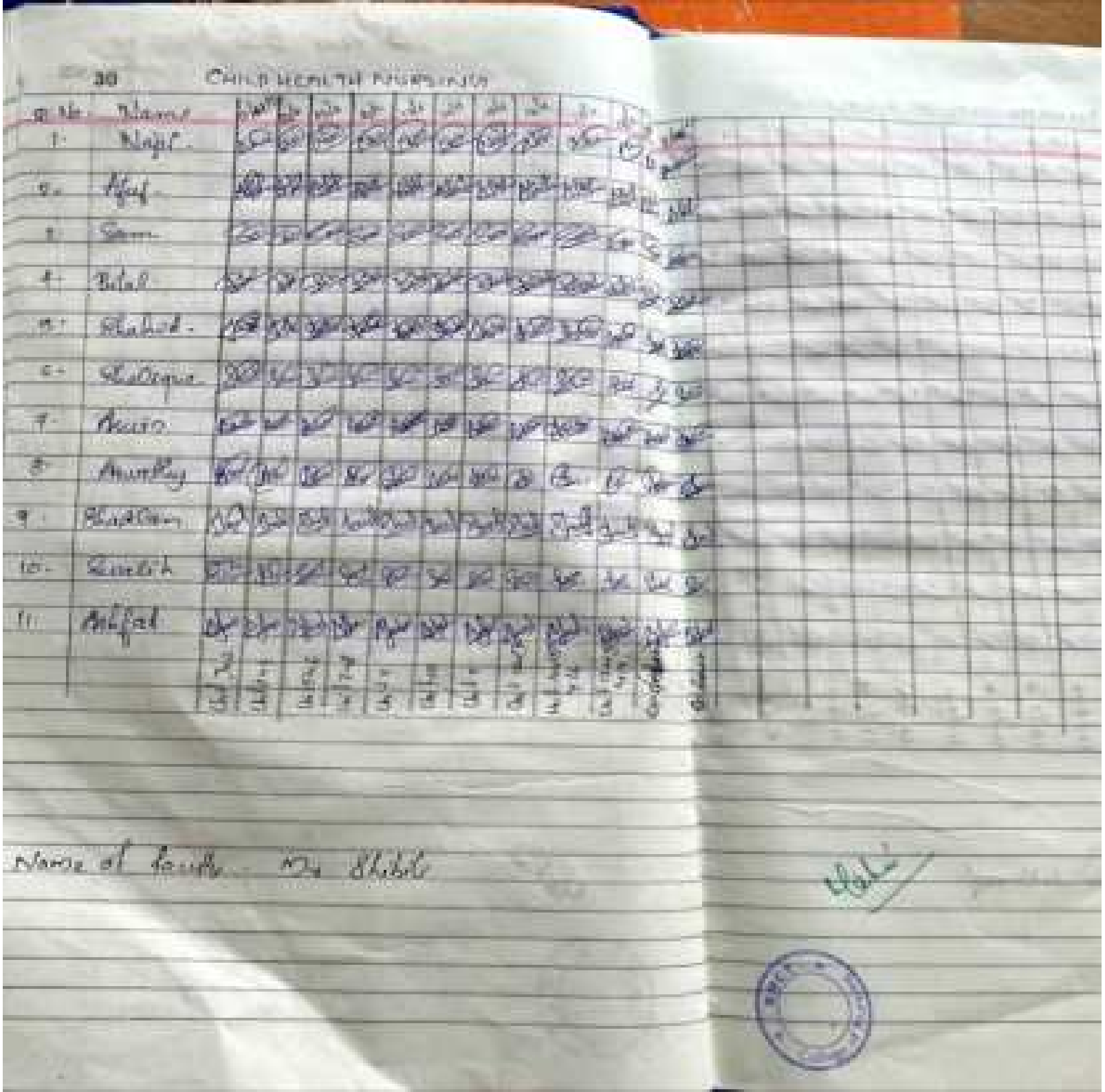
3rd year B.Sc Nursing

2023-2024

28 3rd year MEDICAL SURGICAL NURSING

S.No	Name
1	Najil
2	Afsal
3	Sam
4	Bilal
5	Shahid
6	Shafique
7	Basim
8	Anudhy
9	Shaahn
10	Roshin
11	Ashfak

Name of faculty – Dr. Neenu P.R.



CHILD HEALTH NURSING

Sl. No.	Name	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.	Najif.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2.	Afaf.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3.	Sam	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.	Bilal	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.	Shahid.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6.	Shafique	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.	Amir	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8.	Mushtaq	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9.	Shabbir	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10.	Zubaid	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11.	Altaf	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Name of faculty ... Mr. Shibli

[illegible]

MENTAL HEALTH NURSING

Sl. No.	Name.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.	Najif	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2.	Afuf	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	Sam	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	Bilal	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5	Shahid	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6	Shakeeque	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7	Aswin	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8	Aswathy	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9	Shaalam	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10	Suaib	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11	Akifat	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Name of faculty . Mr. Kakkumal.

NURSING RESEARCH

S.No	Name	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.	Najif	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2.	Afaf	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3.	Sains	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	Bilal	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5	Shahid	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6	Shafique	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7	Arsin	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8	Anvalliy	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9	Shaalam	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10.	Sivalib	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11.	Ashfak	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Revision	Revision	[illegible]	Revision

Name of Faculty - Ms. [illegible]

[illegible]

KMCT COLLEGE O

PUPIL'S ATTENDANCE REGISTER OF Ist semester Bsc Nursing

Subject: APPLIED ANATOMY

Name of the Teacher: Ms. [illegible] Thomas

Sl.No.	Name	1	2	3	4	5	6	7	8	9	10
1	Sahya Biju	1	2	3							
2	Shona Shrijan KK	1	2	3							
3	Hashim M	1	2	3							
4	Fathima Dilna	1	2	3							
5	Alif	1	2	3							
6	Adil	1	2	3							
7	Anamika P	1	2	3							
8	Rinku Roy	1	2	3							
9	Muhammed Shahanshan K	1	2	3							
10	Fathima Sill Hanoon	1	2	3							
11	G Athira	1	2	3							
12	Sahitya	1	2	3							
13	Zam Zam Nasrudeen	1	2	3							
14	Shada Linsa K	1	2	3							
15	Anamika Singh	1	2	3							
16	Fathima Nihla PP	1	2	3							
17	Akhila Babu	1	2	3							
18	Ashina KM	1	2	3							
19	Febin C Kunduvara	1	2	3							
20	Fathima Shajiya	1	2	3							

Date	Hrs	Topic
[illegible]	1	Cell, Report
[illegible]	1	Respiration
[illegible]	1	Cell

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KMCT COLLEGE OF NURSING

PUPIL'S ATTENDANCE REGISTER OF I[st] Semester Bs Nursing FOR THE MONTH OF ______ 20__

Subject: Applied Physiology

Name of the Teacher: Mrs. Jinsi V. J

Sl. No.	Name
1	Sadiya Aman
2	Hanna Shirin
3	Hassan
4	Fathima Dilsha
5	Ali
6	Adel
7	Amruththa
8	Bintu Roy
9	Mohammed Shahadan
10	Fathima Dil Hanna
11	C. Athira
12	Sahidiya A
13	Ham Lam Khondon
14	Shada Lani K
15	Anmola Joyal
16	Fathima Abha T.P
17	Milan Sabu
18	Rubina K.M
19	Fahin Mustafa
20	Fathima Shafiya

DATE: 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

KMCT COLLEGE OF NURSING

PUPIL'S ATTENDANCE REGISTER OF First Semester B.Sc Nursing FOR THE MONTH OF ________ 20

Subject: Applied Psychology

Name of the Teacher: Mrs. [illegible]

Sl. No.	Name
1	[illegible]
2	[illegible] K
3	[illegible]
4	Fathima [illegible]
5	[illegible]
6	[illegible]
7	[illegible] K
8	[illegible] Roy
9	Muhammed [illegible] K
10	Fathima [illegible]
11	[illegible]
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14	[illegible]
15	[illegible]
16	Fathima [illegible]
17	[illegible]
18	[illegible]
19	[illegible]
20	Fathima [illegible]

Signature of the Teacher

Principal

KMCT COLLEGE OF NURSING

PUPIL'S ATTENDANCE REGISTER OF 1st Semester Bsc Nursing FOR THE MONTH OF

Subject: Applied Sociology

Name of the Teacher:

Sl. No.	Name	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Sadiya Anwar	P	P	P	P	P																			
2	Shamna Shanu	P	P	P	P	P																			
3	Mashrim	P	P	P	P	P																			
4	Fathima Dilara	P	A	P	P	P																			
5	Ali?	P	P	P	P	P																			
6	Bolli?	P	A	P	P	P																			
7	Parvathi P?	P	A	P	P	P																			
8	Rinku Roy	P	A	P	P	P																			
9	Shahashan K?	P	A	P	P	P																			
10	Fathima Dil Hanana?	P	A	P	P	P																			
11	K. Athira	P	A	P	P	A																			
12	Sahdiya	P	A	P	P	P																			
13	Lam Lain?	P	P	P	P	P																			
14	Shada Kiran?	P	A	P	P	P																			
15	Benseta Jose?	P	A	P	P	P																			
16	Fathima Nisha	P	A	P	P	P																			
17	Hillary?	P	A	P	P	P																			
18	Rubina	P	P	P	P	P																			
19	Fabin	P	A	P	P	P																			
20	Fathima Shajiya	P	A	P	P	P																			

KMCT

ADULT HEALTH NURSING FILE

III SEMESTER BSc NURSING

PREVIOUS YEAR QUESTIONS

UNIT 4

RESPIRATORY SYSTEM

Essays:

1. Mrs. A, 35 years old lady is admitted with pneumonia. Classify the types of pneumonia with causes. Explain the pathophysiology of pneumonia. Discuss the management of Mrs. A including nursing management (4+4+7 =15)
2. Mr. Ranganath a chronic smoker aged 65 years admitted with breathlessness is diagnosed as a case of COPD. Define COPD and list the causes of COPD. Discuss the findings on respiratory assessment. Explain the nursing care of this patient using nursing process approach (1+3+4+7 15)
3. Mr. A, 55 years old chronic smoker is admitted with the diagnosis of chronic obstructive pulmonary disease (COPD). What are the diseases included in COPD and describe the diagnostic tests to confirm the diagnosis. Explain the pathophysiology. Prepare a nursing care plan for this patient with nursing assessment for three priority problems. (2+3+4+6 15)
4. Mrs. A, 55 years old man is admitted with breathlessness and diagnosed as a case of COPD. Define COPD. Enlist the causes of COPD. Describe the medical and nursing management of Mr A.(12)
5. Specify the diagnostic tests used for patients with respiratory problems. Explain any one in detail with regard to purpose, procedure and nurses role (15)
6. Discuss the predisposing conditions, pathophysiology and the medical management of a patient with acute respiratory distress syndrome (ARDS). Explain the nursing management of a patient on mechanical ventilator. (15)
7. Enumerate the causes of adult respiratory distress syndrome (ARDS). Describe the pathophysiological changes. Explain the nursing management of patient with ARDS (15)
8. Discuss the pathophysiology, diagnostic measures, medical and nursing management of a patient with acute respiratory distress syndrome (15)
9. Discuss the pathophysiology, diagnostic measures, medical and nursing management of a patient with chest injuries.(15)

Short notes:

1. Clinical manifestations of adult respiratory distress syndrome
2. Pulmonary oedema
3. Assessment of respiratory system
4. Pulmonary embolism
5. Bronchoscopy
6. Pulmonary Function Test (PFT)
7. Pulse oximetry
8. Lung abscess
9. Health behaviors to prevent respiratory illness

Give reason:

1. Oxygen of 1-2 litres is administered for a client with COPD
2. Food and fluids are withheld for 1-2 hours after a bronchoscopy
3. Early morning sputum sample collection
4. The sensor of the pulse oximeter is placed on the patients nail
5. Blood glucose level is maintained in patient on prolonged corticosteroid therapy
6. Semi fowler's position is preferred by patients having dyspnoea
7. In an intercostal drainage system, the water seal chamber should always contain at least 2cm of water
8. Inj. Lasix is given in pulmonary oedema
9. Humidifiers are used to add vapour to inspired gas
10. The body responds to hypoxemia by increasing the rate and depth of respiration.
11. A semi upright position is suitable for a dyspnoeic patient

Differentiation

1. Haemothorax and pneumothorax
2. Pleurisy and pleural effusion
3. Central cyanosis and peripheral cyanosis

Essay

1. Mrs. A, 55 years old man is admitted with breathlessness and diagnosed as a case of COPD. Define COPD. Enlist the causes of COPD. Describe the medical and nursing management of Mr A.

Short notes.

1. Clinical manifestations of adult respiratory distress syndrome
2. Pulmonary embolism
3. Pulse oximetry
4. Lung abscess
5. Health behaviors to prevent respiratory illness

Give reason:

1. Oxygen of 1-2 litres is administered for a client with COPD
2. Food and fluids are withheld for 1-2 hours after a bronchoscopy

Differentiation

1. Haemothorax and pneumothorax
2. Central cyanosis ad peripheral cyanosis

1. What is the expected action of salbutamol nebulization ?

a) Antibiotic

b) Stimulants

c) Bronchodialator

d) Stimulants

2. Which of the nursing action is important before patient having chest x-ray?

a) Swallow contrast dye

b) Remove metal necklace

c) Sedation

d) Nil per oral

3. Which of the following pulse oximetry reading indicates patient has ineffective tissue perfusion?

a) 85 to 90 %

b) 85 to 90 mmHg

c) 95 to 100 %

d) 95 to 100 mmHg

4. How should the nurse position the patient undergoing thoracentesis?

a) Prone

b) Knee Chest

c) Supine

5. Which of the following is a classic symptom of pleurisy associated with pneumonia?

a) Hyperpyrexia

b) Tachycardia

c) Pain on breathing

d) Cyanotic nails

6. Which is the best time to collect sputum sample?

a) After a meal

b) Before bedtime

c) Before a meal

d) On awakening

7. What is the normal PaCO2 level of arterial blood?

a) 7.35 to 7.45

b) 22 to 26 mm of Hg.

c) 35 to 45 mm of Hg.

d) 80 to 100 mm of Hg

9. A client with bacterial pneumonia is to be started on antibiotic therapy. Which of the following diagnostic test must be completed before beginning antibiotic therapy?

a) Urine analysis

b) Sputum culture

c) Chest radiograph

d) RBC count

9. Which artery is the most preferred one for arterial puncture of ABG analysis?

a) Femoral

b) Radial

c) Brachial

d) Internal iliac

10. Which test should be done before doing arterial puncture at radial artery?

a) Allen's test

b) Romberg's test

c) Quackenstedt's test

d) Caloric test

11. Identify the correct nursing intervention for a patient after bronchoscopy?

a) Increase fluid intake

b) Monitor urine output

c) Give oral fluid only after the return of gag reflex

d) Maintain NPO for 1 day

12. Expected color of the drainage in acute rhumbs is?

a) Clear

b) Green

c) Yellow

d) Grayish

13. A patient with shortness of breath is being tested for lung cancer. Which of the following diagnostic test will be most conclusive?

a) Chest X-ray

b) MRI

c) Sputum culture

d) Biopsy

14. In a client with chest tube, lack of fluctuation of water in a water seal chamber occurs due to?

a) Kinking of tube

b) Re expansion of lung

c) Both a and b

d) None of these

15. How to ensure that intercostal drainage tube is functioning?

a) Continuous bubbling in water seal bottle

b) Continuous bubbling from suction tube

c) Oscillation of water column in drainage bottle

d) No bubbling in the drainage bottle

16. DVT renders a person at a risk of?

a) Pulmonary embolism

b) Shock

c) Stroke

d) Heart attack

17. Respiratory drive in COPD patient is?

a) Oxygen

b) Carbondioxide

c) PO2

d) pH of the blood

18. Early sign and symptom of hypoxia is:

a. Cyanosis

b. Apprehension and restlessness

c. Convulsion

d. Altered level of consciousness

19. Most common early clinical manifestations of ARDS are:

a. Dyspnea and tachypnea

b. Restlessness and grunting

c. Bradypnea and tachycardia

d. Cyanosis

20. Which among the following is necessary for the maintenance of fluid balance in the patient with ARDS?

a. Hydration using hypertonic solution

b. Provide humidified oxygen

c. **Fluid restriction and diuretics**

d. Daily electrolyte monitoring

21. Identify the correct statement regarding acute respiratory distress syndrome (ARDS):

a. Alveoli are over expanded

b. Alveoli less elasticity

c. Alveolar spaces are filled with fluid

d. **Alveoli are collapsed**

22. Permanent abnormal dilation and destruction of bronc and bronchioles is known as:

a. Atelectasis

b. Asthma

c.Emphysema

d. Bronchiectasis

23.Complication of bronchiectasis is .....

a. Cerebral abscess

b. Lung abscess

c. Amyloidosis

d All of these

24. which of the following findings is expected in chronic bronchitis

a.**barrel chest**

b. Rales

c. Stridor

d. Hyperpnea

25. Which of the following health teaching is essential for a dient diagnosed with chronic bronchitis?

a. Increase fluid intake

b Restrict the fluid intake

c. Strenous exercise

d. None of the above

26. Which of the following is the priority nursing diagnosis for the client with bronchitis?

a. Sleep pattern disturbance

b. Impaired skin integration

c Ineffective breathing pattern

d, Knowledge deficit

27.A student nurse has conducted a health talk for a patient diagnosed with bronchitis. Which of the following statement made by the patient after the health talk indicates that the student nurse has given an effective health talk to this patient?

a. I should stop smoking

b, I will able to take hot and spicy foods

c. i must restrict fluid intake

d. If the symptoms are present, then I can stop the medications

28. Classic barrel-shaped chest is seen in patients with:

a. Congestive cardiac failure

b. COPD

UNIT WISE QUESTION & ANSWER

3rd Year Revision

THIRD YEAR MSN UNIT 1:-

Q1:- CRISIS AND ITS INTERVENTION

Stressful situations are part of everyday life. Any stressful situation can precipitate crisis. Crisis results in disequilibrium from which many people require assistance to recover. Crisis intervention requires problem solving skills that are often diminished by the level of anxiety. Therefore assistance is required to solve the problem and preserve the self-esteem. Recently the people of Kerala have faced a number of catastrophic events like floods, landslide, outbreak of nipah etc. the priority of crisis intervention or counselling is to increase stabilization.

Definition

"A state of disequilibrium resulting from the interaction of an event with the individuals or family's coping mechanism, which are inadequate to meet the demands of the situation, combined with the individual's family perception of the meaning of the event."

- Taylor 1982

Crisis is a sudden event in one's life that disturbs homeostasis, during which the individuals usual coping mechanisms cannot resolve the problem.

- Lagerquist 2001

CRISIS INTERVENTION

Crisis intervention refers to the methods used to offer immediate, short term help to individuals experience an event that produces emotional, mental, physical and behavioural distress or problem.

Crisis intervention is a short term therapy focussed on solving the immediate problem. It is usually limited to 6 weeks. The goal of crisis intervention is for the individual to return to a pre-crisis level of functioning

Purpose

- To reduce the intensity of an individual's emotional, mental, physical and behavioural reactions to a crisis.
- To help individuals return to their level of functioning before the crisis
- To assist the individual in recovering from the crisis and to prevent serious long term problems from developing

Goals for crisis intervention

- Reduction in disequilibrium or relief of symptoms of crisis
- Restoration to pre-crisis level of functioning
- Some understanding of the relevant precipitating event
- Identification of remedial measures
- Connecting the current situation with past life experiences and conflicts
- Initiating new modes of thinking, perceiving feeling and developing new adaptive and coping responses.

Indications for crisis intervention

- Abstinence
- Paediatric and geriatric
- Adolescent maturational crisis
- Suicidal thoughts and attempt
- Traumatic event or experience
- Violent behaviour
- Psychosomatic patients
- Illicit drug abuse
- Marital crisis and family issues
- Intra group staff issues and client management issues
- Severe anxiety and depression
- High risk family e.g. ill members, recent death

Requisites for effective crisis intervention

- Ability to create trust via confidentiality and honesty
- Ability to listen in an attentive manner
- Provide the individual with to opportunity to communicate by talking less
- Being attentive to verbal and non-verbal cues
- Pleasant, interested intonation of voice
- Maintaining good eye contact, posture and appropriate social distance if in a face to face situation
- Remaining undistracted open honest and sincere.
- Asking open ended questions
- Giving feedback and receiving feedback whenever possible if the person is prepared to hear.
- Asking permission, never acting on assumptions
- Checking out sensitive cross cultural factors
- Being aware of one's own prejudices

Setting for crisis intervention

- Hospitals outpatient unit, inward emergency room settings
- Mental health care centres
- Community setting: home visit and outreach centres
- Telephonic counselling and hotline; infoemation cells
- Suicide prevention and crisis intervention centres
- Schools, offices, private practice

Principle of crisis intervention

- ✓ Be specific, use concise statements, avoid irrelevant questions
- ✓ Encourage expression of feelings
- ✓ Calm, controlled presence gave reassurance

- ✓ Listen for facts and feelings, clarification, paraphrasing, reflection can be used
- ✓ Gave sufficient time
- ✓ Help patient legitimize feelings
- ✓ Clarify distorts
- ✓ Empower persons
- ✓ focus on one implication at a time
- ✓ Assist in confronting reality

Phases of crisis intervention

1. Assessment
2. Planning therapeutic interventions
3. Implementation
4. Evaluation of crisis resolution and anticipatory planning

Assessment

The first step is assessment. At this time the data about the nature of crisis and its effect on the patient is collected. From this data intervention is planned. During this phase nurse establishes a positive working relationship with the patient. The nurse assess for the following factors:

- ➢ Precipitating event or stressor
- ➢ Patients perception of the event or stressor
- ➢ Nature and strength of the patients support system and coping resources
- ➢ Patients previous strength and coping mechanisms

Precipitating factor is identified by exploring the needs of the patient, the events that threaten the needs. Four kinds of needs have been identified

- Self-esteem is achieved when the person attains successful social role experience
- Role mastery is achieved when the person attains work, sexual, and family role relationship
- Dependency is achieved when a satisfying interdependent relationship with others is attained
- Biological function is achieved when a person is safe and life is not threatened

The nurse determines which needs are not being met by asking the patient to reflect on issues of self-image and self-esteem, the areas of life that are considered a success, ones relationship with others and the degree of safety and security in life. Nurse looks for the obstacles that might interfere with meeting patients need. When did the patient begin to feel anxious? When did sleep disturbances begin? At what point in time suicidal thoughts began?

Perception of the event

The patient perception or appraisal of precipitating event is very important. What may seem trivial to the nurse may have great meaning to the patient.

Support system and coping resources

The patients living situation and support in the environment must be assessed. Does the patient live alone, with whom is patient close, is there a supportive clergyman or friend?

Assessing the patient's support system is important in determining who should come for the crisis therapy session. If the patient has few supports, participation in a crisis therapy group may be recommended.

Coping mechanism

The nurses assess the patient's strength and previous coping mechanism. Besides exploring previous coping mechanism the nurse also should note the absence of other possible successful mechanisms. Nurse ask, how the patient has handled other crisis, how were anxieties revealed, did the patient find relief in crying etc.

Planning and implementation

The next step of crisis intervention is planning, the previously collected data are analysed and specific interventions are proposed. Alternative solutions to the problem are explored, and steps for achieving the solutions are identified. The nurse identifies which environment supports to engage or strengthen and how best to do this, as well as deciding which of the patients coping mechanism to develop and which to strengthen. Nursing interventions can take place on many levels using a variety of techniques. There are four levels of crisis intervention:

1. Environmental manipulation
2. General support
3. Generic approach
4. Individual approach

Environmental manipulation

Environmental manipulation includes interventions that directly change the patient's physical or interpersonal experiences. These interventions provide situational support and removes tress. Important elements of this intervention are mobilizing the patients supporting social system and serving as a liaison between the patient and social support agencies.

Example: a patient who is having trouble in coping with her 6 children may temporarily send some of their children to their grandparents. Similarly a patient having difficulty on his or her job may take a week of sick leave to be removed temporarily from the stress.

General support

General support includes interventions that convey the feeling that the nurse is on the patient's side and will be a helping person. The nurse uses warmth, acceptance, empathy, caring and reassurance to provide this type of support.

Generic approach

The generic approach is used to reach high risk individuals and large groups as quickly as possible. It applies a specific method to all people faced with similar crisis. The expected course of a particular crisis is studied and mapped out. The intervention is then set to ensure that the course of the crisis results in an adaptive response.

Example: grief can be treated with a generic approach. Helping the patient to overcome ties to deceased and find new pattern of rewarding interaction may effectively resolve the group.

Intervention following an acute stress is sometimes referred to as debriefing. Debriefing is used as a therapeutic intervention to help people recall events and clarify traumatic events. Intervention consists of ventilation of feeling within a context of group support, normalization of responses and evaluation about psychological reactions to traumatic event.

Individual approach

The individual approach is a type of crisis intervention similar to the diagnosis and treatment of a specific problem in a specific patient. The nurse must understand the specific patient characteristics that lead to the present crisis and must use the intervention that help the patient develop an adaptive response to the crisis. It is particularly used in maturational and situational crisis. It is also useful when symptoms include homicidal and suicidal risk. Interventions are aimed at facilitating cognitive and emotional processing of the traumatic event and at improving coping.

Interventions according to types of crisis

Dispositional crisis

An acute response to an external situational stressor

Interventions include:

- The mental health counsellor provided support and guidance in terms of presenting alternatives to him/her
- Needs and issues were clarified and referrals for agency assistance were made

Crisis of anticipated life transition

Normal life cycle transitions that may be anticipated but over which the individual may feel a lack of control

Interventions

- Physical examination should be performed and ventilation of feelings encouraged
- Reassurance and support should be provided as needed
- Services that can provide financial and other types of needed assistance

Crisis resulting from traumatic stress

Crisis precipitated by unexpected external stresses over which the individual has little or no control and from which he or she feels emotionally overwhelmed and defeated

Interventions

- The nurse should encourage her to talk about the experience and express her feelings associated with it
- The nurse should offer reassurance and support
- Discuss stages of grief and how rape causes a loss of self-worth, triggering the grief response
- Identify support system that can help her to resume her normal activities
- Explore new methods of coping with the emotions arising from a situation with which she has had no previous experience

Maturation/developmental crisis

Crises that occur in response to situations that trigger emotions related to unresolved conflicts in one's life.

Interventions

- The primary intervention is to help the individual identify the unresolved developmental issue that is created the conflict
- Support and guidance are offered during the initial crisis period
- Assist individual to work through the underlying conflict in an effort to change response patterns that are creating problem in his current life.

Crisis reflecting psychopathology

Interventions are:

- Help bring down the level of anxiety that has created the feeling of unreality in him or her.
- After the feeling of panic anxiety has subsided, encourage to verbalize the feelings of abandonment.
- Regressive behaviour should be discouraged
- Positive reinforcement to be given for independent activities and accomplishments
- Referral to the long term care facility if required

Psychiatric emergencies

Interventions are:

- Monitor vital signs
- Gastric lavage and activated charcoal in case of drug overdose
- Symptomatic interventions

- Encourage to ventilate feelings
- Establish more adaptive ways of coping with the stressful event.

5/12/13

Q2:- COMPLICATIONS OF MECHANICAL VENTILATION

Although mechanical ventilation may be essential to maintain ventilation and oxygenation, it can cause adverse effects. It is often difficult to distinguish complications of mechanical ventilation from the underlying disease.

Cardiovascular System

PPV can affect circulation because of the transmission of increased mean airway pressure to the thoracic cavity. With increased intrathoracic pressure, thoracic vessels are compressed. This results in decreased venous return to the heart, decreased left ventricular end-diastolic volume (preload), decreased CO, and hypotension. Mean airway pressure is further increased if titrating PEEP (>5 cm H20) to improve oxygenation.

If the lungs are noncompliant (as in ARDS), airway pressures are not as easily transmitted to the heart and blood vessels. Thus effects of PPV on CO are reduced. Conversely, with compliant lungs (e.g., emphysema), there is increased danger of transmission of high airway pressures and negative effects on hemodynamics.

Compromise of venous return by PPV is exaggerated by hypovolemia (e.g., hemorrhage, multiple trauma) and decreased venous tone (e.g., sepsis, spinal shock). Restoration and maintenance of the circulating blood volume are important in minimizing cardiovascular complications.

Pulmonary System

1) **Barotrauma:-** As lung inflation pressures increase, risk of barotrauma increases. Patients with compliant lungs (e.g., COPD) are at greater risk for barotrauma because the increased airway pressure readily distends the lungs and may rupture alveoli or emphysematous blebs. Patients with stiff lungs (e.g., ARDS) who are given high inspiratory pressures and high levels of PEEP (>5 cm H20) and patients with suppurative lung abscesses resulting from necrotizing organisms (e.g., staphylo. cocci) are also susceptible to barotrauma. Air can escape into the pleural space from alveoli or interstitium, accumulate, and become trapped. Pleural pressure increases and collapses the lung, causing pneumothorax. The lung receives air during inspiration but cannot expel it during expiration. Respiratory bronchioles are larger on inspiration than expiration. They may close on expiration, and air becomes trapped. With PPV, a simple pneumothorax can become a life-threatening, tension pneumothorax. With tension pneumothorax, the mediastinum and contralateral lung are compressed, compromising CO. Immediate treatment of the pneumothorax is required. For some patients, chest tubes may be placed prophylactically. Pneumo-mediastinum usually begins with rupture of alveoli into the lung interstitium, progressive air movement then occurs into the mediastinum and subcutaneous neck tissue. This is commonly followed by pneumothorax. Occurrence of new, unexplained subcutaneous emphysema is an

indication for immediate chest X-ray. Pneumo-mediastinum and subcutaneous emphysema in the neck may be too small to be detected radiographically or clinically before the development of a pneumothorax.

2) **Volutrauma:**-The concept of volutrauma in PPV relates to the lung injury that occurs when large tidal volumes are used to ventilate noncompliant lungs (e.g., ARDS). Volutrauma results in alveolar hactures and movement of fluids and proteins into the alveolar spaces. The ARDS Network Study demonstrated a change in mortality rate of patients with ARDS by using smaller VT of 6 ml/kg. The use of low-volume ventilation rather than pressure ventilation is the suggested strategy for lung protection in ARDS patients.

3) **Alveolar Hypoventilation:**- Hypoventilation can be caused by inappropriate ventilator settings, leakage of air from the ventilator tubing or around the ET tube or tracheostomy cuff, lung secretions or obstruction, and low ventilation/perfusion ratio. Low VT or respiratory rate decreases minute ventilation, causing hypoventilation. A leaking cuff or tubing that is not secured may cause air leakage, lowering the delivered VT. Too low an SIMV rate in a patient who is unable to produce adequate spontaneous respirations causes hypoventilation, respiratory acidosis, and additional problems related to acidosis such as cardiac dysrhythmias. Excess lung secretions can cause hypoventilation. Turning the patient every 1-2 hours, providing chest physical therapy to lung areas with increased secretions, encouraging deep breathing and coughing, and suctioning as needed may alleviate this. Atelectasis may develop. Increasing the VT, adding small increments of PEEP and adding a preset number of sighs to the ventilator settings lessen the likelihood of atelectasis.

4) **Alveolar Hyperventilation:**- Respiratory alkalosis can occur if the respiratory rate or VT is set too high (mechanical overventilation) or if the patient receiving assisted ventilation is hyperventilating. It is easy to overventilate a patient on PPV. Particularly at risk are patients with chronic alveolar hypoventilation and $C0_2$ retention (e.g., patients with COPD). The patient with COPD may have a chronic $PaCO_2$ elevation (acidosis) and compensatory bicarbonate retention by the kidneys. When the patient is ventilated, the patient's normal baseline rather than the standard normal values should be the therapeutic goal. If the COPD patient is returned to a standard normal $PaCO_2$, the patient will develop alkalosis because of the retained bicarbonate. Such a patient could move from compensated respiratory acidosis to serious metabolic alkalosis. The presence of alkalosis makes weaning from the ventilator difficult. Alkalosis, especially if the onset is abrupt, can have additional serious consequences, including hypokalemia, hypocalcemia, and dysrhythmias. Neuromuscular irritability, seizures, coma, and death can occur. Usually the patient with COPD who is supported on the ventilator does better with a short inspiratory and longer expiratory time. If hyperventilation is spontaneous, it is important to determine the cause and treat it. Causes might include hypoxemia, pain, fear, anxiety, or compensation for metabolic acidosis. Patients who fight the ventilator or breathe out of synchrony may be anxious or in pain. If the patient is anxious and fearful, sitting with the patient
and verbally coaching the patient to breathe with the ventilator may help. If these measures fail, manually ventilating the patient slowly with a 100% oxygen source may slow breathing enough to bring it in synchrony with the ventilator.

5) **Ventilator-Associated Pneumonia:-** The risk for hospital-acquired pneumonia is highest in patients requiring mechanical ventilation because the ET or tracheostomy tube bypasses normal upper airway defenses. In addition, poor nutritional state, immobility, and the underlying disease process (e.g., immunosuppression, organ failure) make the patient more prone to infection. Ventilatorassociated pneumonia (VAP) is defined as a pneumonia that occurs 48 hours or more after ET intubation.7I VAP occurs in 9%-27% of all intubated patients, with 50% of the occurrences developing within the first 4 days of mechanical ventilation. In addition, patients who develop VAP have significantly longer hospital stays and higher mortality rates than those who do not develop VAP. In patients with early VAP (within 96hr of mechanical ventilation), sputum cultures often grow gram-negative bacteria such as Escherichia coli, Klebsiella, Proteus, Streptococcus pneumoniae, Haemophilus influenzae, and oxacillin-sensitive Staphylococcus aureus. Organisms associated with late VAP include antibioticresistant organisms such as Pseudomonas aeruginosa and oxacillinresistant S. aureus. These organisms are abundant in the hospital environment and/or the patient's GI tract. Organisms can spread in a number of ways, including contaminated respiratory equipment, inadequate hand washing, adverse environmental factors such as poor room ventilation and high traffic-flow, and decreased patient ability to cough and clear secretions. Colonization of the oropharynx tract by gram-negative organisms is a predisposing factor in the development of gram-negative pneumonia. Clinical evidence suggesting VAP includes fever, elevated white blood cell count, purulent sputum, odorous sputum, crackles or rhonchi on auscultation, and pulmonary infiltrates noted on chest X-ray. The patient is treated with antibiotics after appropriate cultures are taken by tracheal suctioning or bronchoscopy and when infection is evident.

Guidelines on VAP prevention include

- head of bed (HOB) elevation at a minimum of 30°-45° unless medically contraindicated
- no routine changes of the patient's ventilator circuit tubing
- use of an ET tube with a dorsal lumen above the cuff to allow continuous suctioning of secretions in the subglottic area.
- continuous subglottic suctioning appears to be effective in preventing early-onset VAP.
- effective and frequent hand washing before and after suctioning, whenever ventilator equipment is touched, and after contact with any respiratory secretions
- The nurse should wear gloves when in contact with the patient and change gloves between activities (e.g., bathing the patient, administering an IV drug).
- condensation that collects in the ventilator tubing should be drained away from the patient as it collects.

Sodium and Water Imbalance

Progressive fluid retention often occurs after 48-72 hours of PPV, especially PPV with PEEP. It is associated with decreased urinary output and increased sodium retention. Fluid balance changes may be due to decreased CO, which in turn results in diminished renal perfusion. Consequently, renin release is stimulated with subsequent production of angiotensin and aldosterone. This results in sodium and water retention. It is also possible that pressure

changes within the thorax are associated with decreased release of atrial natriuretic peptide, which also causes sodium retention. Mild water retention is also associated with PPV. There is less insensible water loss via the airway because ventilated delivered gases are humidified with body temperature water. In addition, as a part of the stress response, release of antidiuretic hormone and cortisol may be increased, contributing to sodium and water retention.

Neurologic System

In patients with head injury, PPV, especially with PEEP, can impair cerebral blood flow. This is related to increased intrathoracic positive pressure impeding venous drainage from the head as evidenced by jugular venous distention. As a result of the impaired venous return and increase in cerebral volume, the patient may exhibit increases in intracranial pressure. Elevating the head of the bed and keeping the patient's head in alignment may decrease the deleterious effects of PPV on intracranial pressure.

Gastrointestinal System

Patients receiving PPV are often stressed because of serious illness, immobility, and discomforts associated with the ventilator. Thus the ventilated patient is at risk for developing stress ulcers and GI bleeding. Patients with a preexisting ulcer or those receiving corticosteroid therapy are at an especially increased risk. Any kind of circulatory compromise, including reduction of CO caused by PPV, may contribute to ischemia of the gastric and intestinal mucosa and possibly increase the risk of translocation of GI bacteria.

Peptic ulcer prophylaxis includes the administration of histamine H_2-receptor blockers (e.g., ranitidine), proton pump inhibitors (e.g., omeprazole), and tube feedings to decrease gastric acidity and diminish the risk of stress ulcer and hemorrhage. Although the research regarding the use of H_2-receptor blockers or proton pump inhibitors is conflicting, guidelines support the use of routine peptic ulcer prophylaxis in patients who are mechanically ventilated to decrease the risk of VAP.

Gastric and bowel dilation may occur as a result of gas accumulation in the GI tract from swallowed air. The irritation of an artificial airway may cause excessive air swallowing and subsequent gastric dilation. Gastric or bowel dilation may put pressure on the vena cava, decrease CO, and prohibit adequate diaphragmatic excursion during spontaneous breathing. Elevation of the diaphragm as a result of paralytic ileus or bowel dilation leads to compression of the lower lobes of the lungs, which may cause atelectasis and compromise respiratory function. Decompression of the stomach can be accomplished by the insertion of an NG/OG tube.

Immobility, sedation, circulatory impairment, decreased oral intake, use of opioid pain medications, and stress contribute to decreased peristalsis. The patient's inability to exhale against a closed glottis may make defecation difficult. As a result, the ventilated patient could be predisposed to constipation.

Musculoskeletal System

Maintenance of muscle strength and prevention of the problems associated with immobility are important. Exercise tolerance is enhanced by adequate analgesia and adequate

nutrition. Progressive ambulation of patients receiving long-term PPV can be attained without interruption of mechanical ventilation. The ventilator can be pushed around the room, or the patient can be manually ventilated with a BVM while ambulating. Passive and active exercises, consisting of movements to maintain muscle tone in the upper and lower extremities, should be done in bed. Simple maneuvers such as leg lifts, knee bends, quadriceps setting, or arm circles are appropriate. Prevention of contractures, pressure ulcers, footdrop, and external rotation of the hip and legs by proper positioning is important.

Machine Disconnection or Malfunction

Mechanical ventilators may become disconnected or malfunction. When turned on and operative, alarms alert the nurse to problems. Most deaths from accidental ventilator disconnection occur while the alarm is turned off, and most accidental disconnections in critical care settings are discovered by low-pressure alarm activation. The most frequent site for disconnection is between the tracheal tube and the adapter. Connections should be pushed together and then twisted to secure more tightly. The nurse should ascertain that alarms are set at all times and should chart that this is the case. Alarms can be paused (not inactivated) during suctioning or removal from the ventilator and should always be reactivated before leaving the patient's bedside.

Ventilator malfunction may also occur and may be related to several factors. Although most institutions have emergency generators in the event of a power failure and newer ventilators may have battery backup, the nurse should always consider the possibility that power may fail and have a plan for manually ventilating all the patients who are dependent on a ventilator. If, at any time, the nurse determines that the ventilator is malfunctioning (e.g., failure of oxygen supply), the patient should be disconnected from the machine and manually ventilated with 100% oxygen until the ventilator is fixed or replaced.

Problems	Causes	Solution
Increase in peak airway pressure	• Coughing or plugged airway tubing	• Suction airway for secretions, empty condensation fluid from circuit
	• Patient bucking ventilator	• Adjust sensitivity • Manually ventilate patient
	• Decreasing lung compliance	• Assess for hypoxia or bronchospasm • Check arterial blood gas values • Sedate only if necessary
	• Tubing kinked	• Check tubing, reposition patient, insert oral airway if necessary

	• Pneumothoras • Atelectasis or bronchospasm	• Manually ventilate patient,notify physician • Clear secretions

Q3:- PRINCIPLES OF CRITICAL CARE NURSING 5 mr

Critical care unit is a specially designed and equipped facility staffed by skilled personnel to provide effective and safe care for the dependent patient with life threatening or potentially life threatening problems. The principles of critical care nursing includes the following.

1) ANTICIPATION- The first principle in critical care is Anticipation. has to recognize the high risk patients and anticipate the requirements, complicationsand be prepared to meet any emergency. Unit is properly organized in which all necessary equipments and supplies are mandatory for smooth running of the unit.

2) EARLY DETECTION AND PROMPT ACTION – The prognosis of the patient depends on the early detection of variation, prompt and appropriate action to prevent or combat complication. Monitoring of cardiac respiratory function is of prime importance in assessment.

3) COLLABORATIVE PRACTICE - Critical Care, which has originated as technical sub-specialized body of knowledge has evolved into a comprehensive discipline requiring a very specialized body of knowledge for the physicians and nurses working in the critical care unit fosters a partnerships for decision making and ensures quality and compassionate patient care. Collaborate practice is more and more warranted for critical care morethan in any other field.

4) COMMUNICATION - Intra professional, inter departmental and inter personal communication has a significant importance in the smooth running of unit. Collaborative practice of communication model unlike the traditional practice model enhances better outcome as far as patient, nurse, physician and hospital are concerned. This model centres around the patient, fosters individual clinical decision making, uses integrated medical records and join review of care.

5) PREVENTION OFINFECTION - Nosocomial infection cost a lot in the health care services. Critically ill patients requiring intensive care are at a greater risk than other patients due to the immune compromised state with the antibiotic usage and stress.

invasive lines, mechanical ventilators, prolonged stay and severity of illness and environment of the critical unit itself.

- ✓ The source of infection are wounds, indwelling catheters, invasive lines, ventilator, hematogenic and urinary route.
- ✓ The most common organisms are E coli, pseudomonas species, staphylococcus aureus and occasionally clostridium tetani
- ✓ Quality nursing care combined with a vigilant surveillance program can minimizing the incidence of nosocomial infections.
- ✓ The ways to minimizing nosocomial infection is effective hand washing, routine cleaning of the units, concurrent and terminal disinfection procedures and regular culture examination from potential ports at different place in the critical care unit. Strict practice of barrier nursing and reverse isolation procedures wherever indicated

6)CRISIS INTERVENTION AND STRESS REDUCTION -

- ✓ Partnerships are formulated during crisis. Bonds between nurses, patients and families are stronger during hospitalization. As patient advocates, nurses assist the patient to express fear and identify their grieving pattern and provide avenues for positive coping.
- ✓ Listening is a skill to be developed by every critical care nurse, to handle the extreme complex feeling of patients who are in crisis situation.
- ✓ Empathy is the attitude to be developed by a critical care nurse to make herself a good counsellor of the patient.
- ✓ Sudden illness or trauma can throw the family of the critically patient into a state of crisis. As a result it is common for a family to required significant support from the critical care nurses to survive the crisis.
- ✓ Family in crisis usually present with highly anxiety denial, anger, grief. The proper assessment determines the strength and weakness and deficit on family perception, situational support and coping. critical care nurses form a link between patient and families.
- ✓ Critical nurses themselves undergo job stress due to many factors. They need to be supported personally, professionally and spiritually which would be part of management strategies in every critical care unit.
- ✓ On-going educational opportunities would enhance the staff morale. Research is to be developed to improve the standard of nursing intervention in critical care unit.
- ✓ The critical care nurses to know the pathology of critical illness and apply the principles of critical care nursing to make the nursing practice unique and comprehensive for the patients who are admitted to the unit with varying degree of problems.

Q4:- TYPES OF MECHANICAL VENTILATION

12/1/15

- ✓ The two major types of mechanical ventilation are negative pressure and positive pressure ventilation.

Negative Pressure Ventilation

- Negative pressure ventilation involves the use of chambers that encase the chest or body and surround it with intermittent sub-atmospheric or negative pressure. The "iron lung" was the first form of negative pressure ventilation that evolved during the polio epidemic. Intermittent negative pressure around the chest wall causes the chest to be pulled outward. This reduces intrathoracic pressure. Air rushes in via the upper airway, which is outside the sealed chamber. Expiration is passive; the machine cycles off, allowing chest retraction. This type of ventilation is similar to normal ventilation in that decreased intrathoracic pressures produce inspiration and expiration is passive. Negative pressure ventilation is delivered as noninvasive ventilation and an artificial airway is not required.
- There are several portable negative pressure ventilators that are used in the home for patients with neuromuscular diseases, central nervous system disorders, diseases and injuries of the spinal cord, and severe COPD. Negative pressure ventilators are not used extensively for acutely ill patients. However, some research has demonstrated positive outcomes with the use of negative pressure ventilation in acute exacerbations of chronic respiratory failure.

Positive Pressure Ventilation

- Positive pressure ventilation (PPV) is the primary method used with acutely ill patients. During inspiration the ventilator pushes air into the lungs under positive pressure. Unlike spontaneous ventilation, intrathoracic pressure is raised during lung inflation rather than lowered. Expiration occurs passively as in normal expiration. Modes of PPV are categorized into two groups: volume and pressure ventilation.
- **Volume Ventilation:-** With volume ventilation, a predetermined tidal volume (V T) is delivered with each inspiration, and the amount of pressure needed to deliver the breath varies based on the compliance and resistance factors of the patient-ventilator system. Consequently, the VT is consistent from breath to breath, but airway pressures will vary.
- **Pressure Ventilation:-** With pressure ventilation, the peak inspiratory pressure is predetermined, and the VT delivered to the patient varies based on the selected pressure and the compliance and resistance factors of the patient-ventilator system. With this understanding, attention must be given to the VT to prevent unplanned hyperventilation or hypoventilation. For example, when the patient breathes out of synchrony with the ventilator, the pressure limit may be reached quickly, and the volume of gas delivered may be small. Initially, pressure ventilation was used only in stable patients being weaned from the ventilator. Today, pressure ventilation is frequently selected to treat critically ill patients.

Modes of Volume Ventilation

- The variable methods by which the patient and the ventilator interact to deliver effective ventilation are called modes. The selected ventilator mode is based on how much WOB the patient ought to or can perform and is determined by the patient's ventilatory status, respiratory drive, and ABGs. WOB refers to inspiratory effort needed to overcome the elasticity and viscosity of the lungs along with the airway resistance. Generally, ventilator modes are controlled or assisted. With controlled ventilatory support, the ventilator does all of the WOB, and with assisted ventilatory ssupport, the ventilator and the patient share the WOB. For the past 25 years, volume modes such as controlled mandatory ventilation

(CMV), assist-control ventilation (ACV), and synchronized intermittent mandatory ventilation (SIMV) have been used to treat critically ill patients. Over the last decade, pressure modes such as pressure support ventilation (PSV) and pressure-controlled inverse ratio ventilation (PC-IRV) have become more widespread.

Controlled Mandatory Ventilation

- ✓ With controlled mandatory ventilation (CMV), breaths are delivered at a set rate per minute and a set VT, which are independent of the patient's ventilatory efforts. Although CMV is used infrequently, it is used when the patient has no drive to breathe (e.g., the anesthetized patient) or is unable to breathe spontaneously (e.g., the paralyzed patient). Additionally, ACV can achieve similar results and not "lock out" the patient's inspiratory efforts. In the CMV mode, the patient performs no WOB and cannot adjust respirations to meet changing demands.

Assist-Control Mechanical Ventilation

- ✓ With assist-control ventilation (ACV), the ventilator delivers a preset VT at a preset frequency, and when the patient initiates a spontaneous breath, the preset VT is delivered. The ventilator senses a decrease in intrathoracic pressure and then delivers the preset VT. The patient can breathe faster than the preset rate but not slower. This mode has the advantage of allowing the patient some control over ventilation while providing some assistance. ACV is used in patients with a variety of conditions, including neuromuscular disorders (eg:- Guillain-Barré syndrome), pulmonary edema, and acute respiratory failure. In the ACV mode, the patient has the potential for hypoventilation and hyperventilation. The spontaneously breathing patient can easily be overventilated, resulting in hyperventilation. If the volume or minimum rate is set low and the patient is apneic or weak, the patient will be hypo-ventilated. Thus these patients require vigilant assessment and monitoring of ventilatory status, including respiratory rate, ABGs, SpO2, and SvO2/CO2. It is also important that the sensitivity or amount of negative pressure required to initiate a breath is appropriate to the patient's condition. For example, if it is too difficult for the patient to initiate a breath, the WOB is increased and the patient may tire and or develop ventilator asynchrony (i.e., the patient "fights" the ventilator).

Synchronized Intermittent Mandatory Ventilation

- ✓ With synchronized intermittent mandatory ventilation (SIMV), the ventilator delivers a preset VT at a preset frequency in synchrony with the patient's spontaneous breathing. Between ventilatordelivered breaths, the patient is able to breathe spontaneously through the ventilator circuit. Thus the patient receives the preset FiO2 concentration during the spontaneous breaths but selfregulates the rate and volume of those breaths. This mode of ventilation differs from ACV, in which all breaths are of the same preset volume. It is used during continuous ventilation and during weaning from the ventilator. SIMV may also be combined with PSV (described below). Potential benefits of SIMV include improved patient-ventilator synchrony, lower mean airway pressure, and prevention of muscle atrophy as the patient takes on more of the WOB.
- ✓ There are disadvantages with SIMV. If spontaneous breathing decreases when the preset rate is low, ventilation might not be adequately supported. Low-rate SIMV should be used only in patients with regular, spontaneous breathing. Weaning with SIMV demands

close monitoring and may take longer because the rate of breathing is gradually reduced. Patients being weaned with SIMV may also have increased muscle fatigue associated with spontaneous breathing efforts.

Modes of Pressure Ventilation

Pressure Support Ventilation

- With pressure support ventilation (PSV), positive pressure is applied to the airway only during inspiration and is used in conjunction with the patient's spontaneous respirations. The patient must be able to initiate a breath in this modality. A preset level of positive airway pressure is selected so that the gas flow rate is greater than the patient's inspiratory flow rate. As the patient initiates a breath, the machine senses the spontaneous effort and supplies a rapid flow of gas at the initiation of the breath and variable flow throughout the breath. With PSV the patient determines inspiratory length, VT, and respiratory rate. VT depends on the pressure level and airway compliance. PSV is used with continuous ventilation and during weaning. PSV may also be used with SIMV during weaning. PSV is not used as a sole ventilatory support during acute respiratory failure because of the risk of hypoventilation.
- Advantages to PSV include increased patient comfort, decreased WOB (because inspiratory efforts are augmented), decreased oxygen consumption (because inspiratory work is reduced), and increased endurance conditioning (because the patient is exercising respiratory muscles).

Pressure-Controlled In verse Ratio Ventilation

- Pressure controlled inverse ratio ventilation (PC-IRV) combines pressurelimited ventilation with an inverse ratio of inspiration (I) to expiration (E). Some clinicians use PC without IRV. The I/E ratio is the ratio of duration of inspiration (I) to the duration of expiration (E). This value is normally a ratio of 1:2. With IRV, the IE ratio begins at 1:1 and may progress to 4:1. With IRV, a prolonged positive pressure is applied, increasing inspiratory time. IRV progressively expands collapsed alveoli. The short expiratory time has a PEEP-like effect, preventing alveolar collapse. Because IRV imposes a non-physiologic breathing pattern, the patient requires sedation with or without paralysis. PC-IRV is indicated for patients with acute respiratory distress syndrome (ARDS) who continue to have refractory hypoxemia despite high levels of PEEP. Not all patients with poor oxygenation respond to PC-IRV.

Other Modes

- Increases in ventilator technology have led to the development of additional pressure modes. However, due to the non-standardization of these options, the names and features are manufacturer specific. The superiority of these modes has not been established. Some examples include volume-assured pressure ventilation (VAPS) and pressure release ventilation (PRV).

Other Ventilatory Maneuvers

Positive End-Expiratory Pressure

- ✓ Positive end-expiratory pressure (PEEP) is a ventilatory maneuver in which positive pressure is applied to the airway during exhalation. Normally during exhalation, airway pressure drops to zero, and exhalation occurs passively. With PEEP, exhalation remains passive, but pressure falls to a preset level greater than zero, often 3-20 cm H2O. With PEEP, lung volume during expiration and between breaths is greater than normal. Thus PEEP increases fractional residual capacity (FRC), and this often improves oxygenation with restoration of lung volume that normally remains at the end of passive exhalation. The mechanisms by which PEEP increases FRC and oxygenation include increased aeration of patent alveoli, aeration of previously collapsed alveoli, and prevention of alveolar collapse throughout the respiratory cycle. PEEP is titrated to the point that oxygenation improves without compromising hemodynamics.This is termed best or optimal PEEP. Often 5 cm H2O PEEP (referred to as physiologic PEEP) is used prophylactically to replace the glottic mechanism, help maintain a normal FRC, and prevent alveolar collapse. PEEP of 5 cm H2O is also used for patients with a history of alveolar collapse during weaning. PEEP has demonstrated improvements in gas exchange, vital capacity, and inspiratory force when used during weaning.
- ✓ In contrast, auto-PEEP is not purposely set on the ventilator but is a result of inadequate exhalation time. Auto-PEEP is additional PEEP over what is set by the clinician and can be measured at the end-expiratory hold button located on most ventilators. This additional PEEP may result in increased WOB, barotrauma, and hemodynamic instability. However, during some ventilator modes (PC-IRV), auto-PEEP may be desirable.
- ✓ Interventions to limit auto PEEP include sedation and analgesia, large-diameter ET tube, bronchodilators, short inspiratory times, decreased respiratory rates, and reducing water accumulation in the ventilator circuit by frequent emptying or use of heated circuits. In patients with short exhalation times and early airway closure (e.g., COPD, asthma), setting PEEP can offset auto-PEEP by splinting the airway open during exhalation and preventing "air trapping."
- ✓ In general, the major purpose of PEEP is to maintain or improve oxygenation while limiting risk of oxygen toxicity. FiO2 can often be reduced when PEEP is used. PEEP is thought to be useful in pulmonary edema, providing a counter pressure opposing fluid extravasation. PEEP is indicated in lungs with diffuse disease, severe hypoxemia unresponsive to F1O2 greater than 50%, and loss of compliance or stiffness.
- ✓ The classic indication for PEEP therapy is ARDS. PEEP is generally contraindicated or used with extreme caution in patients with highly coma pliant lungs (e.g., COPD), unilateral or non-uniform disease, Hypovolemia, and low CO. In these situations, the adverse effects of PEEP.

Q5. Ethical and Legal Issues in Intensive Care

1. **Informed Consent:** Informed consent is a process consisting of information and consent, not merely the signing of a form. Obtaining the informed consent requires client teaching by the health care provider. Consent is a voluntary act by which a person agrees to allow someone else to do something. Informed consent means that the client understands the reason for the proposed intervention, and its benefits and risks, and agrees to the treatment by Signing a consent form. Laws regarding informed consent protect the

client's right to self-determination. A client is able to make an informed decision about consenting to or refusing a treatment regime only if adequate information has been presented. Informed consent is legal doctrine stating that patient have the power to choose among medically reasonable plans for care. Legally the client must be mentally competent to give consent for medical procedures. It is the legal responsibility of the health care provider performing the procedure to obtain the client's informed consent.

2. **Decision Making Capability**: Decision-making capacity is often referred to by the legal term competency. It is one of the most important components of informed consent. Decision making capacity, or competency, simply means that you can understand and explain the options, their implications, and give a rational reason why you would decide on a particular Option instead of the others. In practical terms, physicians are sometimes asked to evaluate a person's capacity to make decisions. If a physician believes that a person lacks the ability to make informed decisions about medical care, that person is deemed "incapable." The components of decision-making capacity are: the ability to understand the Options, the ability to understand the consequences of choosing each of the options and the ability to evaluate the personal cost and benefit of each of the consequences and relate them to your own set of values and priorities.

3. **Advance Directives:** Advance directive as a written instruction that is recognized under state law and is related to the provision of such care when the individual is incapacitated (Cate & Gill, 1991). Advance directives are usually written documents designed to allow competent patients the opportunity to guide future health care decisions in the event that they are unable to participate directly in medical decision making. The document indicates patient's choices about medical treatment. In the document, patient can also name someone to make decisions about medical treatment if patient unable to make these decisions or choices.

Advance directives demonstrate respect for individuality and self-determination, and are legal and ethical obligation. An advance directive allows the patient to communicate his or her wishes in the event of terminal illness or a permanently comatose state. It also names an agent who assists in decision making. Many advance directives give the health care agent specific instructions concerning health matters.

There are several types of Advance Directives, each suited to a specific type of medical and legal situation.

a. **Living Will:** The living will covets health care decisions when you are terminally ill and unable to make decisions, or permanently unconscious. The living will is a formal legal document that must be written and signed by the patient. Some state laws include a model form. This written statement tells health care providers what type of life-prolonging treatments or procedures to perform if you have a terminal condition or are in a persistent vegetative state.

b. **Durable Power of Attorney:** To provide broader coverage, many patients opt for a durable power of attorney for health care. The durable power of attorney for health care allows the patient to appoint a surrogate decision maker, known as a

health care agent or proxy, who has authority to make treatment and health care decisions in the event that the patient is not able to do so.

4. **Good Samaritan Acts:** Good Samaritan acts are laws that provide protection to health care providers by ensuring immunity from civil liability when assistance is provided at the scene of an emergency when the caregiver does not intentionally or recklessly cause client injury. The caregiver will be evaluated by how a reasonable and prudent caregiver would have responded in a similar situation. Good Samaritan acts are examples of common and statutory laws as determined by the individual states. Good Samaritan acts do not provide immunity to the nurse who is providing care as an employee.

5. **Do Not Resuscitate Orders:** A do not resuscitate (DNR) order is another kind of advance directive. Do Not Resuscitate or DNRs order on a patient's file means that a doctor is not required to resuscitate a patient if their heart stops and is designed to prevent unnecessary suffering. DNR is a legal order written either in the hospital or on a legal form to respect the wishes of a patient to not undergo CPR or advanced cardiac life support (ACLS) if their heart was to stop or they were to stop breathing. This request is usually made by the patient or health care power of attorney and allows the medical teams taking care of them to respect their wishes.

6. **Withholding or Withdrawing Life Sustaining Medical Treatment:** The withholding and withdrawing of life-sustaining therapies is ethical and medically appropriate in some circumstances. Withdrawal of treatment is an issue in intensive care medicine because it is now possible to maintain life for long periods without any hope of recovery. Life-sustaining treatment is any treatment that serves to prolong life without reversing the underlying medical condition. Life-sustaining treatment may include, but is not limited to, mechanical ventilation, renal dialysis, chemotherapy, antibiotics, and artificial nutrition and hydration. There is no ethical distinction between withdrawing and withholding life-sustaining treatment. A competent, adult patient may, in advance, formulate and provide a valid consent to the withholding or withdrawal of life-support systems in the event that injury or illness renders that individual incompetent to make such a decision. A patient may also appoint a surrogate decision maker in accordance with state law.

7. **Active Euthanasia:** Euthanasia is Greek for good death which translates into English as easy death or mercy killing. Euthanasia refers to an intentional action or lack of action causing the merciful death of someone suffering from a terminal illness or incurable condition. Active euthanasia, an act of commission, is taking some action that leads to death like a fatal injection. Active euthanasia occurs when the medical professionals, or another person, deliberately do something that causes the patient to die. Requests for it generally arise because individuals suffer uncontrolled pain, demand more control over their care, or fear abandonment. However, many terminally ill people who have requested euthanasia change their minds after pain has been relieved.

8. **Restraints or Seclusion:** Restraints are legal only if they are necessary to protect the client or others from harm. If a competent client refuses to follow orders and the nurse uses restraints, the nurse can be charged with false imprisonment and / or assault and battery. In an emergency situation when a client becomes violent and is in imminent danger of harming self or others, the nurse may apply restraints and then immediately obtain an order from the physician. The nurse is legally accountable for the client in restraints or seclusion.

Because individuals often pull out feeding tubes, demented individuals on tube feedings are often physically restrained (ie. strapped down). This removes what little dignity and independence these people have left. The situation is worsened because demented people usually cannot understand how the treatment benefits them. Restraints are also difficult to consider as humane care. Sedation or "chemical restraint" might seem more acceptable on the surface, but these medications also rob people of dignity and often have unacceptable side effects. The use of restraints in the long-term-care setting has become closely regulated and monitored. Physical restraints have little, if any, value in preventing injuries from falls, and less restrictive alternatives are usually available. Physicians and surrogate decision makers should extensively discuss the legal and ethical implications of using physical or chemical restraint.

9. **Abuse of Older Adults:** Family members or other caregivers can sometimes become abusive for a variety of reasons. These may include feeling overwhelmed and burnt out by care-giving responsibilities, lacking appropriate care-giving skills, or having no break from care-giving. The duty to protect older people often justifies intervening in these situations. Older adults may not be able to protect themselves or know how to get help. They may also fear retaliation or be ashamed to admit the abuse. Any concerned person who suspects abuse has an ethical duty to try to determine if the victim has the capacity to make decisions, is informed, and is not being coerced. Some states require physicians and caregivers to report suspected abuse to a protective service agency.

If the older person cannot function without extensive care and must remain at risk, support services may be appropriate. These may include obtaining home care services, counseling the abusive caregiver, or moving the older person to another residence. Supporting services should be offered, although capable individuals may refuse the assistance. If a person is not capable and the abuse seems clear, the physician or caregiver must consider a report to adult protective service agencies or a petition to the court for a new guardian.

10. **Preventing Harm:** Health care providers have a duty to use their expertise for the benefit of the people in their care. However, you retain the right to refuse treatments that your health care provider considers to be in your best interest. Again, good communication with your health care providers can improve your mutual understanding of risks, benefits, and underlying beliefs.

Preventing harm to an individual is often raised in decisions to place someone in a nursing home. An older adult may wish to remain at home, but family member or caregivers may override this decision if they believe that living independently is not safe.

However, the crucial ethical question is whether the older adult is capable of making an informed decision about where to live. If so, his or her decision should be respected, even if others believe that it is unwise or foolish, and even if it puts that person at greater risk. Caregivers can try to arrange for in-home supportive services that may greatly improve the situation and decrease risk.

Q 6.Defibrillation And Cardioversion Difference

DEFIBRILLATION	CARDIOVERSION
Emergency life saving procedure	Elective planned procedure
Unsynchronised shock	Synchronised shock
High energy shock	Low energy shock
More damage to myocardium	Less damage to myocardium
Used in VT or VF	Used in most of the arrhythmias except VT or VF
Can be given at any time of cardiac cycle	Can be given in ventricular contraction

Q7. Difference between BLS and ACLS

BLS	ACLS
Non invasive	Invasive
No medications administered	Along with medications
Can be done by anyone trained	Medical personnel specialised
No advanced equipments	Defibrillator, cardiac monitors used
One person or two person	Team of workers- doctors, nurses, paramedic, emergency medical technician
No right to give basic treatment	Basic treatment can be given

Q8:- Difference Between CPAP And PEEP

PEEP	CPAP
Positive end expiratory pressure	Continuous positive airway pressure
A technique of assisting breathing by increasing the air pressure in the lungs and air passages near the end of expiration so that an increased amount of air remains the lungs following expiration	A technique of assisting breathing by maintaining the air pressure in the lungs and air passages constant and above atmosphere pressure throughout the breathing cycle

Q 9:- **Assessment of patent on mechanical ventilator**

The patient who needs ventilatory support also needs primary nursing care. One of the greatest contributions the nurse can make to decreasing costs, length of stay, and mortality in patients with respiratory problems is to implement interventions that will prevent or minimize complications. Because mechanical ventilation is supportive rather than curative, the focus of care for the mechanically ventilated patient is holistic. The nurse must interact effectively with each member of the health care team to achieve desired patient outcomes. The mechanical ventilator, the artificial airway, and the care necessary to maintain mechanical ventilation require specialized nursing knowledge and skills.

Endotracheal Tube Care

To prevent tube movement, tube migration, or inadvertent extubation, ETTs must be anchored securely. Anchoring can be accomplished with adhesive tape or with commercially manufactured tube immobilization appliances. Usual practice is to re-tape the ETT every 1 to 2 days or when it is soiled or insecure.

In orally intubated patients, the position of the ETT should be changed from side to side to facilitate oral care and to prevent areas of pressure necrosis on the lips, mouth, and tongue. The disadvantage of frequent re-taping is that patients with fragile. Skin or prolonged intubation may incur skin breakdown. Twill tape can be substituted for adhesive tape in these situations and for patients with heavy beards. Re-taping by two people is desirable to prevent accidental tube displacement.

The final step in re-taping is to check tube placement in comparison to placement before re-taping. ETT placement is verified by radiography following initial intubation. The position in centimeters at the lips/ teeth or nostril is recorded; this placement is verified every shift to detect inadvertent position changes. Tube placement is checked, following re-taping, by comparing the centimeter markings at the lips/teeth or nostril with the last radiological documentation of position. Placement of an oral bite block can prevent biting on the tube, which can cause airway narrowing or tube displacement. The use of a swivel connector (connecting the tube to the ventilator circuit), along with anchoring a large loop of tubing to the bed, facilitates patient movement without ETT movement. Oral inspection and hygiene are of paramount importance when a bite block is used.

Persistent coughing may suggest that the ETT has migrated to touch the carina, requiring the tube to be with; drawn to an appropriate level. The pilot cuff balloon is protected from inadvertent disruption; cuff rupture or ETT occlusion with a mucous plug usually requires reintubation. If a patient is prematurely extubated "for any reason, the airway must be kept patent. Oxygenation and ventilation may be provided with an MRB and mask until reintubation can be accomplished.

Tracheostomy Care

In patients requiring long-term mechanical ventilation, the airway is converted to a tracheostomy at some point to prevent the complications of endotracheal intubation, such as tracheal stenosis and vocal cord paralysis. The preferred method of airway management is the tracheostomy tube for long term ventilation. Past practice involved tracheostomy after 11 and up to 21 days on the ventilator. Current practice promotes earlier tracheostomy at 72 hours after

intubation. Earlier tracheostomy (eg, after 3 to 7 days on the ventilator) is performed to facilitate earlier weaning, particularly if the patient has multiple comorbidities and demonstrates difficulty weaning or has trauma or neurological diagnoses associated with prolonged need for an artificial airway. Tracheostomy is also performed for patient comfort and safety when mobilizing the patient and may lead to decreased ventilator weaning time.

In addition to long term ventilation, indications for tracheostomy include upper airway obstruction, airway edema from anaphylaxis, failed intubation, multiple intubations (high risk for complications), complications of ET intubation, absence of protective reflexes, home care, conditions in which ETT intubation is not possible (eg, facial trauma, cervical fractures), and the desire for improved patient comfort.

The advantages of tracheostomy over endotracheal intubation include faster weaning (at least in part because of decreased dead space), enhanced patient comfort, enhanced communication, and the possibility of oral feeding. The tracheostomy is inserted into the trachea, thereby avoiding the mouth, upper airway, and glottis, and this decreases problems of airway resistance and occlusion.

Tracheostomy is not without disadvantages. These include hemorrhage, infection, pneumothorax, and the need for an operative procedure that is itself a risk. The most serious complication is erosion into the innominate artery, which can result in exsanguination. If bleeding occurs, the cuff can be hyper inflatedin an attempt to control bleeding until emergency surgery can be performed.

The practice of bedside percutaneous tracheostomy using a progressive dilation technique has been tested no decrease the morbidity and cost incurred with an operative procedure because it is often earlier than surgical tracheostomy. Although there is no major difference in mortality risk, it has been found that early tracheostomy resulted in decreased ventilator days. Less infection and bleeding have also been given as advantages over the standard procedure performed in the operating room.

The nurse can prevent complications by assessing for them with each patient interaction and during tracheostomy care. Proper fixation of the tracheostomy tube reduces the movement of the tube in the airway and limits friction injury to the tracheal wall or larynx. Maintaining the cuff pressure at the minimum required to prevent air leak on the ventilator reduces the risk for tissue breakdown due to excessive pressure on the trachea wall.

The tracheostomy tube must be firmly secured. The ventilator tubing should have enough length to allow movement without pulling on the tracheostomy and to allow for procedures. A tracheostomy swivel connector, with or without tubing reduces the tension on the tracheostomy while the patient is in the ventilator. A confused or very mobile patient can easily self de-cannulate, patient restraints may be needed to prevent accidental de-cannulation.

Orienting the patient to the need for an artificial airway and providing pain control and sedation are measures that are taken before resorting to restraint application. If restraints are needed, it is necessary to obtain physician's order, with regular review of continued need. The nurse must monitor the patient closely for potential injury and must perform circulatory checks with removal of restraint frequently.

Tracheostomy care includes frequent changing of tracheal and dressing, although initial ties are not changed until at least 24 to 48 hours after placement to allow for hemostasis of the site. The sutures from either a percutaneous or surgical tracheostomy are left in place for 48 to 72 hours or even up to a week to prevent de-cannulation. As with re-taping of the ETT, changing of tracheostomy ties should be a sterile procedure. The ties should be tied so that one to two fingers can be inserted between the ties and the skin, allowing minimal movement of the tracheostomy tube but maintaining comfort.

It is mandatory to maintain a midline position for the tracheostomy to prevent pressure on surrounding tissue. The stoma is cleansed with half strength hydrogen peroxide, followed by rinse with sterile saline solution, and observed for wound healing, bleeding, and signs of infection.

The routine practice of inner cannula cleaning or changes may not be necessary with a disposable inner cannula that can be changed daily. The routine care for tracheostomy is cleaning the tracheostomy site at least every 8 to 12 hours and as needed, changing the inner cannula daily (or according to facility policy), and changing soiled tracheostomy ties as needed, progressing to daily and as needed care.

This longer care interval usually occurs after 7 to 10 days or when secretion and tracheostomy drainage are minimal. The routine care of tracheostomies is always performed as a sterile procedure while in the hospital. If de-cannulation occurs within the first 7 days of tracheostomy insertion, the patient may be re-intubated with an ETT if emergent tracheostomy tube replacement cannot be done safely. An obturator and a new, appropriately sized tracheostomy tube are kept at the bedside. If inadvertent de-cannulation occurs after a trachea developed, the tube is carefully replaced using the obturator.

Tube Cuff Pressure Monitoring

Tube cuff pressures are monitored every shift to prevent over distention and excess pressure on the tracheal wall mucosa, which can cause complications such as tracheal stenosis. If a patient is on the ventilator, the best pressure is the lowest possible pressure without having a loss of inspiratory volume.

Histologically, pressures of about 20 to 30 mm Hg obliterate capillary Circulation to the tracheal mucosa if a cuff leak is suspected, auscultation at the neck for the sound of air escaping above the cuff can determine whether the seal is adequate. One method used to inflate a cuff is called the minimal occluding volume. Air is injected slowly into the pilot balloon during ventilator inspiration while auscultation is performed over the trachea. When the harsh "squeak" of air escaping is no longer audible, the minimal occluding volume has been reached, and the tube cuff is occluding the airway without excessive pressure on the trachea. Extra air should not be added.

In the ICU, the best practice is actual measurement of cuff pressure using a manometer. This device is attached to the ETT pilot balloon to obtain a reading, which should ideally be 20 to 25 mm Hg. If a leak is still present above this level of inflation, slight repositioning of the ETT within the patient's airway may correct the problem.

Changing to a larger or longer ETT may be necessary with increasing pressures to seal the airway. The cuff pressure is assessed with the manometer every 6 to 8 hours and, when a leak is noted, to help prevent aspiration of subglottic secretions. Whenever a cuff leak is found, the

medical team and respiratory care practitioner should be notified. Recurrent cuff leaks may indicate the need for an extra-long tube or a larger size to provide for ventilation.

Discharge Planning and Patient Teaching

Discharge planning is necessary for patients who will be discharged to home with tracheostomies. Rationales for tracheostomy care include promotion of ostomy healing, prevention of infection, maintenance of a patent airway, and increased patient comfort.

Teaching the patient and family care giver tracheostomy care allows for independence and self-care. This is an essential component of discharge teaching. Communication about the procedure and reassurance during the training process reduce anxiety and improve cooperation.

Nutritional Support

Respiratory muscles, like all other body muscles, need energy to work. If energy needs are not met, muscle fatigue occurs, leading to discoordination of respiratory muscles and a decrease in tidal volume. Hypomagnesemia and hypophosphatemia have been implicated in muscle fatigue caused by depleted levels of adenosine triphosphate. Electrolyte imbalances must be corrected and monitored daily for optimal muscle functioning during ventilator weaning.

In prolonged starvation, the body cannibalizes the intercostal and diaphragmatic muscles for energy. Metabolic needs in critically ill patients are much higher than in normal subjects. Basic caloric requirements are usually increased by 25% for hospital activity and stress associated with treatment. Adequate nutrition is a prerequisite for weaning from mechanical ventilation, nutritional support should be instituted early. If the gastrointestinal tract is intact, enteral nutrition is preferred and can be provided through a small-bore feeding tube. .

Initial tube feeding is started slowly, with close monitoring of blood glucose and electrolyte levels. The nurse observes the patient for signs of intolerance, such as diarrhea and hyperosmolar dehydration. If the patient tolerates feedings, the rate is gradually increased until the goal rate is achieved. If tube feedings cannot be tolerated, parenteral hyper-alimentation should be considered.

Patients who require long term mechanical ventilation typically need additional protein and calories per day. When available, metabolic cart testing or a 24 hour urine nitrogen test can assess individual nutritional requirements. The monitoring of the pre-albumin level may give an indication of recent nutritional state. Nutritionists are invaluable in determining the caloric needs of critically ill patients.

Eye Care

Eye care of the ventilator patient is important. Many patients in the ICU are comatose, sedated, or chemically paralyzed and therefore have lost the blink reflex or ability to close their eyelids completely. This can lead to corneal dryness and ulceration.

Current practices include instillation of lubricating drops or ointment, taping the eyes, applying eye shields, or applying a moisture chamber. Eye care should be scheduled and not on an as needed basis to ensure 24 hour application. Scleral edema is common in the ventilated patient.

Oral Care

Frequent oral care must be performed on all mechanically ventilated patients. Oral care not only increases comfort but also preserves the integrity of the oropharyngeal mucosa. An intact mucosa helps prevent infection and colonization of organ' isms that leads to VAP.

These general oral care guidelines are not suitable for patients with an ETT and do not promote VAP prevention. The current literature includes oral care guidelines using every 2, 4, and 8hour interventions with specific interventions of tooth brushing, oral and subglottic suctioning, moisturizer, and oral rinses.

The CDC recommends that every ICU implement a complete oral care program with use of an antimicrobial oral rinse to prevent oral colonization. Every ICU should either review its oral care guideline or create one with the current evidence based research and available protocols. ICUs should follow the AACN Practice Alert on Oral Care in the critically ill. Suggested guidelines may include the following:

a) Systematic assessment of the oral mucosa performed daily and with each cleaning
b) Handwashing before and after every nursing intervention
c) Routine brushing of teeth to remove dental plaque every 8 hours
d) Cleansing of the mouth every 2 hours and as needed
e) Use of an alcohol free or antimicrobial (chlorhexidine) oral rinse every 8 or 12 hours to reduce oropharyngeal colonization
f) Suctioning the mouth and subglottic pharynx to minimize aspiration risk and provide a cover for the suction set with replacement every 8 or 24 hours
g) Applying a water-based mouth moisturizer to prevent mucosal drying and maintain integrity of the oral mucosa
h) Commercial kits are available that provide the suction catheters, covered tonsil tip suction, toothbrushes with suction, and toothpaste for brushing in individually wrapped sets to prevent contamination.

Psychological Care

The ventilated patient is subjected to extreme physical and emotional stress in the ICU environment. Psychological distress can be caused by sleep deprivation, sensory overstimulation, and sensory deprivation for familiar. Pain, fear, inability to communicate, may occur commonly due to the pharmacological agents. Often, treatments can seem humanizing. Feelingsof helplessness and lack of control can be over whelming. The patient may attempt to gain some element of control through constant demanding or exhibiting other inappropriate behavior. If the patient is incapable of dealing with stress through coping mechanisms, he or she may exhibit depression, apathy, and lack of emotional involvement. These reactions may be exacerbated in patients with a history of psychiatric problems or drug or alcohol abuse.

Assisted ventilation can precipitate a psychological dependence in those with primary respiratory disorders. If for the first time in years, a patient is receiving enough oxygen to meet metabolic needs and does not have to struggle for air, he or she may be reluctant to give up the ventilator. Weaning can become even more stressful for this patient.

Nursing interventions to improve sleep with quiet time, psychiatric consultation, and alternative therapy, such as music or massage, in addition to encouraging family support, will

benefit the stressed patient. Taking the patient outside on the Ventilator, sitting up in a chair, and ambulating on an MRB In improve the patient's mental health. Pet therapy, visiting with family and friends, and using a calendar for long-term patients can help keep them oriented. Resumption of the psychotropic medications. Especially for depression or other disorders, as essential when compatible with the medical plan.

Facilitating Communication

A number (If interventions can facilitate communication with the patient who has an endotracheal or tracheostomy tube. Before assessing the patient's ability to communicate, provide the patient with his or her eyeglasses or hearing aid (if applicable). Complete explanations from staff members regarding any procedures may help decrease the patient's mess. The care giver can use verbal and nonverbal communication skills. Nonverbal communication may include sign, language, gestures, or lip reading. If the patient is unable to use these forms of nonverbal communication, helpful devices include pencil and paper, clipboard or dry erase boards, picture or alphabet boards, electronic communication boards, and even a computer.

Once the patient is off the ventilator and tolerating the tracheostomy collar, the tracheostomy patient can communicate by using a cap or speaking valves that occlude the tracheostomy tube. These allow for the passage of air around the tracheostomy to the vocal chords as long as the cuff is deflated. The tracheostomy may be capped for 24 to 48 hours before de-cannulation, and the patient breathes and speaks around the tracheostomy. The cap is the final test to ensure airway protection by the patient.

Two other options to the cap are the passyaair valve and the shiley speaking valve. The passy muir and shiley speaking valves are one way valves that allow air to enter during inspiration and then close to allow the air to flow over the vocal chordswith exhalation. These valves each have a side port for oxygen tubing to be attached, providing oxygen support in addition to the humidified air from a tracheostomy collar.

The tracheostomy collar should be used nearly continuously to prevent the accumulation of secretions and the drying of the airway mucosa. Neither speaking valve should be used during sleep to prevent aspiration with a deflated cuff. Patients with copious secretions are at risk for obstruction of these valves. They must be monitored very closely. In addition, patients at high risk for aspiration, especially those with laryngeal or pharyngeal dysfunction, should be carefullyassessed before one of these devices is used.

The nurse should store these valves in a container clearly identified with the patient's name for safekeeping because each type of valve is relatively costly. The patient should be taught to remove the valve with excessive sputum during cough and call for assistance to clean the valve before reuse. The tracheostomy patient with a speaking valve is at increased risk for aspiration because the cuff must be deflated for the patient to communicate.

Caring for the Family

Family members must deal with a strange environment, a critically ill loved one, and the financial strain imposed by the illness. Nursing support is given by familiarizing the family with the physical surroundings, supplying information about visitation policies, and providing frequent progress reports on the patient's condition.

Many ICUs have instituted open visitation policies and increased involvement of family members in patient care. Critical care patients and especially the elderly benefit from increased visitation, and the families benefit from improved communication when they are the decision makers. Nurses increasingly recognize the importance of family visitation for the patient. The presence of family during invasive procedures or during a code has been associated with positive outcomes, and studies show family and care givers reported the benefit of being at the bedside.

The nurse establishes open communication with the patient and family, proactively arranges for visits, and provides the family with information. Promoting spiritual and cultural support, scheduled family communication conferences, nursing education on visitation, and open communication assists the family with coping and reduces stress. A system that includes liberal visitation policies and flexibility fat individual patient and family needs promotes a healing environment and supports the family as partners in the care plan.

Q10:- Infection control in critical care unit

The very first requirement in a hospital that it should do the sick no harm" - Florence Nightingale

INFECTION CONTROL – DEFINITION

Measures practiced by health care personnel to prevent spread, transmission & acquisition of infection between clients, from health care providers to clients & from clients to HCP.

Standard precaution

Based on

Additional precaution

STANDARD PRECAUTION

Set of infection control practices used to prevent transmission of diseases that can be acquired by contact with blood, body fluids, non- intact skin & mucus membrane

STANDARD PRECAUTION STEPS

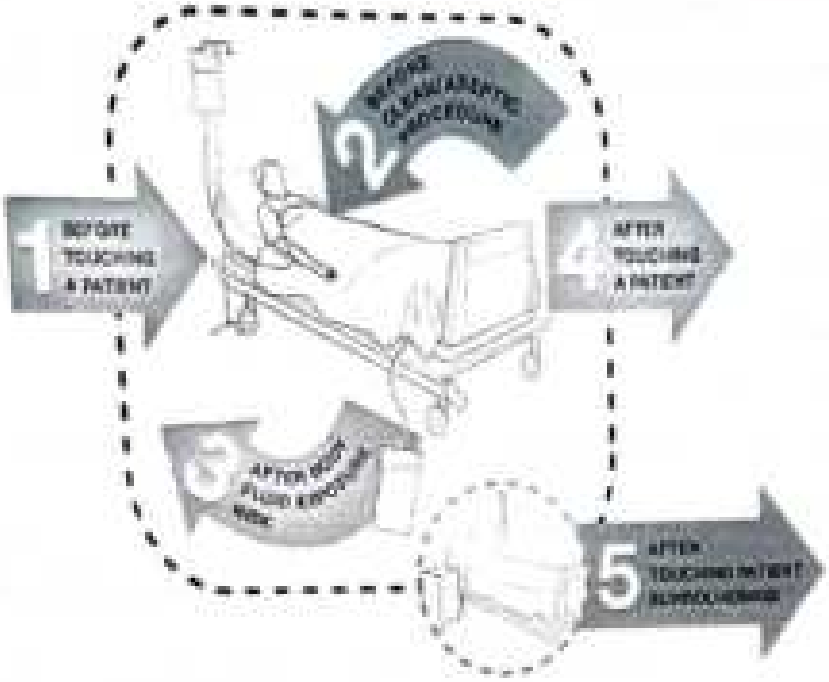
Hand washing

PPE

Decontamination

Waste disposal

When? YOUR 5 MOMENTS FOR HAND HYGIENE



PPEs are as follows:-

- Gloves
- Gown
- Mask
- Protective eye wear
- Face shield
- Apron

SAFE HANDLING OF SHARPS

- Never pass sharps from one person to another.
- Always dispose your own sharps.
- **DO NOT RECAP** needles.
- Dispose sharps in puncture proof container.

Safety bundles

A "bundle" is a group of evidence based care components for a given disease that, when executed together, may result in better outcomes than if implemented individually.

CAUTIs(catheter associated urinary tract infections) Bundle

- Avoid unnecessay urinary catheters
- Insert using aseptic technique
- Maintain catheter using recommended guidelines (daily care)
- Review catheter necessity daily & remove promptly.

CLABSIs (central line associated blood stream infections)

- Hand hygiene
- Maximal barrier precautions
- Chlorhexidine skin antisepsis
- Optimal catheter site selection
- Daily review of line necessity with prompt removal of unnecessary lines
- Line secure with clean & intact dressing

SSI (surgical site infections) Bundle

- Appropriate use of antibiotics
- Appropriate hair removal
- Post operative glucose control
- Peri & postoperative normothermia

VAP (ventilator associated pneumonia) Bundle

- DVT prophylaxis
- GI prophylaxis
- Head of bed elevated to 30-45°
- Daily sedation vacation
- Daily spontaneous breathing trail

ROLE OF INFECTION CONTROL NURSES

- Visits all wards & high risk units.
- Checking nursing supervisor's register & records for cases suggestive of infection.
- Collection of sample from different areas of the hospitals & sending them to the lab.
- Daily visit to microbiology lab to ascertain results of sample collected.
- Monitoring & supervision of infection among hospital staffs.
- Training of nursing & paramedical personnel on correct hygiene practices & aseptic technique.

Q11. ORGANIZATION AND PHYSICAL SETUP OF CCU AND MONITORING OF CRITICALLY ILL PATIENT

12

ORGANIZATION AND PHYSICAL SETUP OF CCU

Intensive care has its roots in the resuscitation of dying patients. Exemplary critical care provides rapid therapeutic responses to failure of vital organ systems, utilizing standardized and effective protocols such as advanced cardiac life support and advanced

trauma life support. Other critically ill patients in less urgent need of resuscitation are vulnerable to multiple organ system failure, and benefit from prevention or titrated care of each organ system dysfunction according to principles for reestablishing normal physiology

DESIGN OF INTENSIVE CARE UNIT Overall ICU floor plan and design should be based upon patient admission patterns,

staff and visitor traffic patterns, and the need for support facilities such as nursing stations storage, clerical space, administrative and educational requirements, and services that are

unique to the individual institution.

1. The Design Team: Icu design should be approached by a multidisciplinary team consisting of, but not limited to, the ICU medical director, the ICU nurse manager, the chief architect, hospital administration, and the operating engineering staff. The chief architect must be experienced in hospital space programming and hospital functional planning; the engineers should be experienced in the design of mechanical and electrical systems for hospitals, especially critical care units. The design team should be expanded as appropriate

by adding members of other hospital departments working with and/or in the critical care unit, to assure that the design meets its intended function. In addition, environmental

engineers, interior designers, staff nurses, physicians, and patients and families may be asked

for comments on how to provide a functional and user-friendly environment. The developmental team should assess the expected demands on the proposed ICU based on an evaluation of its sources of patients, admission and discharge criteria, expected rate of

occupancy, and services provided by other area hospitals. The ability to provide specific

levels of care must be determined by analyzing physician resources, staff resources (nursing

respiratory therapy, etc), and the availability of support services (laboratory, radiology,

pharmacy, etc.).

2. Location (Entry / Exit Points of ICU in Hospital: There should be a single entry and exit point to ICU. However, it is required to have emergency exit points in case of emergencies and disasters. There should not be any through traffic of goods or hospital staff. Safe, easy, fast transport of a critically sick patient should be priority in planning its location. Therefore, the ICU should be located in close proximity of ER, Operating rooms, trauma ward, etc. Corridors, lifts & ramps should be spacious enough to provide easy movement of bed / trolley of a critically sick patient. Close/easy proximity is also desirable to diagnostic facilities, blood bank, pharmacy etc.

3. ICU Bed Designing and Space Issues: Space per bed has been recommended from 125 to 150 sq ft area per bed in the patient care area or the room of the patient. Some recommendation has placed it even higher up to 250 sq ft per bed. In addition there should be 100 to 150% extra space to accommodate nursing station, storage, patient movement area, equipment area, doctors and nurses rooms and toilet) However in Indian circumstances after reviewing and feed back from various ICUs in our country, it may be satisfactory to suggest an area of 100 to 125 sq ft be provided in patient care area for comfortable working with a critically sick patient. (i may be prudent to make one or two bigger rooms or area which may be utilized for patients who may undergo big bedside procedures like ECMO, RRT etc and have large number Gadgets attached to them. 10 % (one to two) rooms may be designated isolation rooms where immunocompromised patients may be kept. These rooms may have 20% extra space than other rooms..

4. Floor and Wall Coverings: "The ideal floor should be easy to clean, non slippery, ablito withstand abuse and also sound while enhancing the overall look and feel of the

environment. Carts and beds equipped with large wheels should roll easily over it. In Indian context Vitrified non-slippery tiles seem to be the best option which can be fitted into reasonable budgets, easy to clean and move on and may be stain proof Vinyl sheeting is another viable option. It can be non-porous, strong and easy to clean.

Walls should meet following criteria: Durability, ability to clean and maintain, flame retardance, mildew resistance, sound absorption and visual appeal. It has been very useful to have a height up to 4to5 ft finished with similar tiles as of floor for similar reasons. For rest of the wall soothing paint with glass panels on the head end at the top may be good choice. Wooden panelling has also found favour with some architects but costs may go high. Doorstoppers and handrails should be placed well to reduce abuse and noise to minimum, it helps patient movement and ambulation.

5. Patient Areas: Patients must be situated so that direct or indirect (e.g. , by video monitor) visualization by healthcare providers is possible at all times. This permits the monitoring of patient status under both routine and emergency circumstances The preferred design is to allow a direct line of vision between the patient and the centra nursing stationdn ICUs with a modular design, patients should be visible from their respective nursing substations. Sliding glass doors and partitions facilitate this arrangement, and increase access to the room in emergency situations.

it is recommended that there should be a partition/separation between rooms when patient privacy is desired. Standard curtains soffe the look and can be placed between two patients which is very common in most Indian ICUs. owever they are displaced and become unclean easily and patient privacy is disturbed -Therefore, two rooms may be separated by unbreakable fixed or removable partitions, which may be of aluminium, wood or fibeg. There are also electronic windows, which are transparent when switched is off and are opaque

when the switch is on. This option allows a view of the external surroundings, but presently is expensive.

6. Central Nursing Station: This is the nerve centre of ICU. A central nursing station should provide a comfortable area of sufficient size to accommodate all necessary staff functions. All/nearly-all monitors and patients must be observable from there, either directly or through the central monitoring system. Most ICUs use the central station, serving six to twelve beds arranged in an L, U or circular fashion Patients in rooms may be difficult to observe and therefore may be placed on remote te evision monitoring. These monitors may satisfy regulatory requirements but do not really provide adequate patient safety if the clarity of the picture is poor.

When an ICU is of a modular design, each nursing substation should be capable of providing most if not all functions of a central station There must be adequate overhead and task lighting, and a wall mounted clock should be presen). Adequate space for computer terminals and printers is essential when automated systems are in use. patient records should be readily accessible, adequate surface space and seating for medical record charting by both physicians and nurses should be provided. Shelving, file cabinets and other storage for medical record forms must be located so that they are readily -accessible h all ersonnetrequiring their-use. It is also important that a storage space is provided for equipment, linen, instrument's, drugs, medicines, disposables, stationary and other articles to be stored at the Nursing station

must be provided. All these cupboards should be labeled. Although a secretarial area may be located separately from the central station, it should be easily accessible as well.

7. Work Areas and Storage: Work areas and storage for critical supplies should be located within or immediately adjacent to each ICU. Alcoves should provide for the storage and rapid retrieval of crash carts and portable monitor/defibrillators. There should be a separate medication area of

at least 50 square feet containing a refrigerator for pharmaceuticals, a double locking safe for controlled substances, and a sink with hot and cold running water. Countertops must be provided for medication preparation, and cabinets should be available for the storage of medications and supplies. If this area is enclosed, a glass wall or walls should be used to permit visualization of patient and ICU activities during medication preparation, and to permit monitoring of the area itself from outside to assure that only authorized personnel are within.

8. Special Procedures Room: If a special procedures room is desired, it should be located within or immediately adjacent to, the ICU. One special procedures room may serve several ICUs in close proximity. Consideration should be given to ease of access for patients transported from areas outside the ICU. Room size should be sufficient to accommodate necessary equipment and personnel. Monitoring capabilities, equipment, support services, nd safety considerations must be consistent with those provided in the ICU proper. Work surfaces and storage areas must be adequate enough to maintain all necessary supplies and permit the performance of all desired procedures without the need for healthcare personnel to leave the room.

9. Clean and Dirty Utility Rooms: Clean and dirty utility rooms must be separate rooms that lack interconnection. They must be adequately temperature controlled, and the air supply from the dirty utility room must be exhausted. Floors should be covered with materials without seams to facilitate cleaning. The clean utility room should be used for the storage of all clean and sterile supplies, and may also be used for the storage of clean linen. Shelving and cabinets for storage must be located high enough off the floor to allow easy access to the floor underneath for cleaning.
The dirty utility room must contain a clinical sink and a hopper both with hot and cold mixing faucets. Separate covered containers must be provided for soiled linen and waste materials.

There should be designated mechanisms for the disposal of items contaminated by

body substances and fluids. Special containers should be provided for the disposal of needles and other sharp objects. -

10. Equipment Storage: An area must be provided for the storage and securing of large patient care equipment items not in active use. Space should be adequate enough to provide easy access, easy location of desired equipment, and easy retrieval. Grounded electrical outlets should be provided within the storage area in sufficient numbers to permit recharging of battery operated items.

11. Nourishment Preparation Area: A patient nourishment preparation area should be identified and equipped with food preparation surfaces, an ice-making machine, a sink with hot and cold

KMCT COLLEGE OF NURSING

REMEDIAL CLASS SCHEDULE

CLYEAR 2023-2024

Sl.No	Date	Subject	Faculty	Sign
1	18/10/2023	Nursing Education	Mrs.Rakhi Sohan	
2	19/10/2023	Administration	Mrs Steffy John	
3	20/10/2023	Community Health Nursing	Mrs.Aghila	
4	21/10/2023	Obg Nursing	Mrs Nanthu M V	
5	23/10/2023	Nursing Education	Mrs.Rakhi Sohan	
6	24/10/2023	Administration	Mrs Steffy John	
7	25/10/2023	Community Health Nursing	Mrs.Aghila	
8	26/10/2023	Obg Nursing	Mrs Nanthu M V	
9	27/10/2023	Nursing Education	Mrs.Rakhi Sohan	
10	28/10/2023	Administration	Mrs Steffy John	
11	30/10/2023	Community Health Nursing	Mrs.Aghila	
12.	31/10/2023	OBG Nursing	Mrs Nanthu M V	

Signature of vice principal

Signature of principal

KMCT COLLEGE OF NURSING

REMEDIAL CLASS SCHEDULE

1ST YEAR 2022-23

Sl.No	Date	Subject	Faculty	Sign
I	18/07/2023	Medical Surgical Nursing	Mrs.Neena p k	
2	19/07/2023	Child Health Nursing	Mrs.shibi Abraham	
3	20/07/2023	Mental Health Nursing	Mrs. Shine Thomas	
4	21/07/2023	Nursing Research	Mrs. Lijna N P	
5	22/07/2023	Medical Surgical Nursing	Mrs.Neena p k	
6	24/07/2023	Child Health Nursing	Mrs.shibi Abraham	
7	25/07/2023	Mental Health Nursing	Mrs. Shine Thomas	
8	26/07/2023	Nursing Research	Mrs. Lijna N P	
9	27/07/2023	Medical Surgical Nursing	Mrs.Neena p k	
10	28/07/2023	Child Health Nursing	Mrs.shibi Abraham	
11	31/07/2023	Medical Surgical Nursing	Mrs.Neena p k	

Signature of vice principal

Signature of principal

KMCT COLLEGE OF NURSING

REMEDIAL CLASS SCHEDULE

2ND YEAR(2021-22)

Sl.No	Date	Subject	Faculty	Sign
1	15/08/2022	Medical Nursing	Mrs Jeena	
2	16/08/2022	Surgical Nursing	Mrs Sruthi T P	
3	17/08/2022	Community health Nursing	Mrs Shiny	
4	19/08/2022	Pharmacology Nursing	Mrs Archana	
5	19/08/2022	Medical Nursing	Mrs Jeena	
6	20/08/2022	Surgical Nursing	Mrs Sruthi T P	
7	22/08/2022	Community health Nursing	Mrs Shiny	
8	26/08/2022	Pharmacology Nursing	Mrs Archana	
9	23/08/2022	Medical Nursing	Mrs Jeena	
10	24/08/2022	Surgical Nursing	Mrs Sruthi T P	
11	26/08/2022	Community health Nursing	Mrs Shiny	
12	27/08/2022	Pharmacology Nursing	Mrs Archana	
13	29/08/2022	Medical Nursing	Mrs Jeena	
14	30/08/2022	Surgical Nursing	Mrs Sruthi T P	

15	11/08/2022	Community health Nursing	Ms Sonia	

Signature Of Vice Principal

Signature Of Principal

KMCT COLLEGE OF NURSING

REMEDIAL CLASS SCHEDULE

1ST YEAR(2020-21)

Sl.No	Date	Subject	Faculty	Sign
1	19/07/2021	Anatomy	Mrs Shari	
2	20/07/2021	Physiology	Mrs Dreenya	
3	21/07/2021	Microbiology	Mrs Nasreena	
4	22/07/2021	Nutrition	Mrs Rakhi Sebas	
5	23/07/2021	Biochemistry	Mrs Sruthy john	
6	24/07/2021	FON	Mrs Delvin Peters	
7	26/07/2021	Sociology	Mrs Athira	
8	27/07/2021	psychology	Mrs Lekshmi	
9	28/07/2021	Anatomy	Mrs Shari	
10	29/07/2021	Physiology	Mrs Dreenya	
11	30/07/2021	Microbiology	Mrs Nasreena	
12	31/07/2021	Nutrition	Mrs Rakhi Sebas	

Signature of vice principal

Signature of principal

KMCT
COLLEGE OF NURSING
Recognized by Indian Nursing Council & Kerala Nurses and Midwives Council & affiliated to Kerala University of Health Sciences

2.5.3

Simplified Notes for Slow Learners

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Phone: +91 495 2293648 Fax: +91 495 2290480
Email: nursing@kmct.edu.in Website: http://www.kmctnursingcollege.org/

APPLIED MICROBIOLOGY

GRAM-NEGATIVE BACILLI
ENTEROBACTERALES

Enterobacterales include the commensal bacteria in the human intestine called coliform bacilli.

They have the following general properties:

* They are gram-negative bacilli

* Aerobes and facultative anaerobes

* Nonfastidious, can grow in basal media like nutrient agar

*Ferment glucose and reduce nitrate

* All are catalase-positive, but oxidase test negative
Based on the fermentation of lactose,

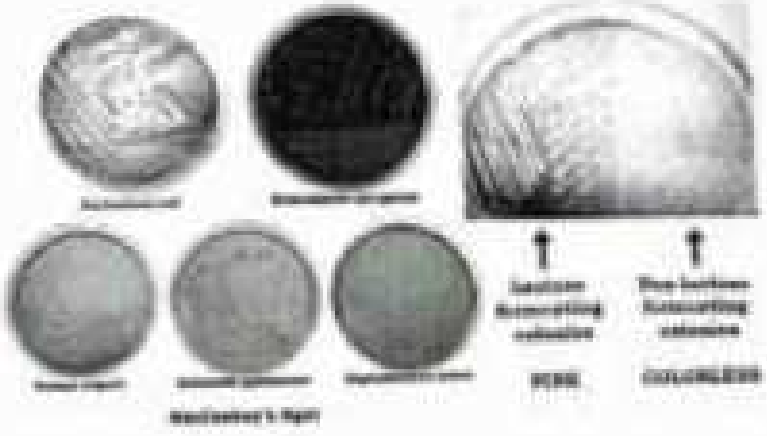
Enterobacterales can be classified into:

* **Lactose fermenters (LF):**
Ferment lactose, and produce pink colonies on MacConkey agar;

e.g. Escherichia, Klebsiella, Enterobacter, and Citrobacter

* **Non-lactose fermenters (NLF):**
Do not ferment lactose, produce pale colonies on MacConkey agar;
e.g. Salmonella, Shigella, Proteeae (Proteus, Morganella, Providencia), and

Yersinia.



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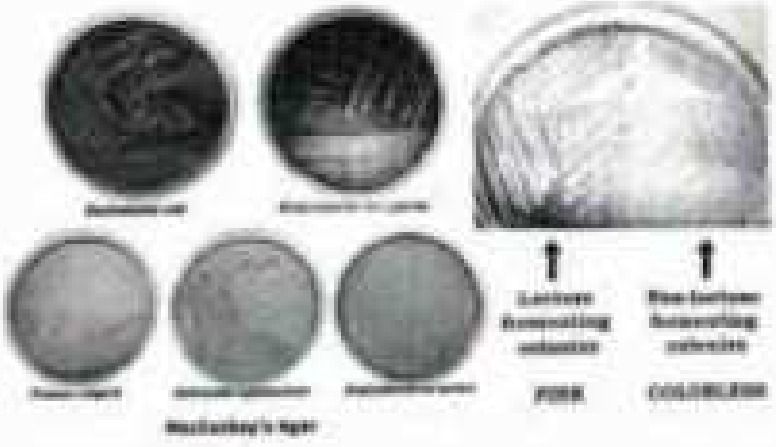


ESCHERICHIA COLI

Escherichia coli is the most common pathogen encountered clinically. It is also the most common aerobe to be harbored in the gut of humans.

E. coli

- Gram-negative rod-shaped bacteria
- 2-3 µm x 0.4-0.7 µm
- Arranged singly or in pairs
- Non-spore forming bacteria
- Motile (Peritrichous flagella)
- Capsulated bacteria

Clinical Manifestations

Various strains of E. coli have been associated with various manifestations.

UTI by UPEC(Uropathogenic E coli)

Urinary tract infection (UTI) is caused by a strain of E. coli known as uropathogenic E coli (UPEC), which is the most common cause (70-75%) of UTI. Infection to the bladder is usually spread by ascending route through the urethra, from the perineal flora.

Diarrhea (Diarrheagenic E. coli)

Diarrhea is caused by a strain of E. coli known as diarrheagenic E. coli, which further comprises six pathotypes.

1. <u>Enteropathogenic E. coli (EPEC):</u>

It causes infantile diarrhea. It is nontoxigenic and noninvasive

2. <u>Enterotoxigenic E. coli (ETEC):</u>

It causes traveler's diarrhea. Pathogenesis is mediated by producing toxins such as:

<u>Heat labile toxin (LT)</u>: Acts by increasing cyclic AMP (Adenosine monophosphate)

<u>Heat stable toxin (ST)</u>: Acts by increasing cyclic GMP (Guanosine 3',5'-cyclic monophosphate)

<u>3.Enteroinvasive E. coli (EIEC):</u>

It is not toxigenic, but invasive and causes bloody diarrhea (i.e. dysentery)

4.Enterohemorrhagic E. coli

Its pathogenesis is mediated by a toxin called verocytotoxin

It also causes dysentery. Verocytotoxin damages the endothelial cells causing capillary microangiopathy which may lead to complications such as hemolytic uremic syndrome (HUS) and hemorrhagic colitis.

5. Enteroaggregative E. coli (EAEC):

It causes persistent and acute diarrhea

6. Diffusely adherent E. coli (DAEC):

It causes diarrhea in children aged 2-6 years.

Other Infections Apart from UTI and diarrhea, E. coli can cause several pyogenic infections such as:

Abdominal infections: Bacterial peritonitis (primary or secondary),

Visceral abscesses, such as hepatic abscess + Pneumonia (especially in hospitalized patients—ventilator-associated pneumonia)

Bloodstream infection (especially in hospitalized patients)

Meningitis (especially neonatal meningitis)

Wound and soft tissue infections such as cellulitis, infection of ulcers and wounds, especially in patient with diabetic foot.

Laboratory Diagnosis

Sample collection depends on the site of infection—urine, stool, pus, wound swab, blood, CSF etc.

* Direct smear microscopy:

Shows gram negative bacilli, and pus cells

* Culture:

Incubation at 37°C for 24h reveals the following growth:

Blood agar: Gray, moist colonies on MacConkey agar: Flat, pink LF colonies

Culture smear and motility: Motile gram-negative bacilli

Biochemical identification:

Various biochemical tests which help in the identification of E. coli are:

Catalase positive and oxidase negative

ICUT tests: Indole, Citrate, Urease, Triple sugar iron (TSI) test are useful for identification.

Automated ID systems such as VITEK and MALDI-TOF can be performed for rapid and accurate identification of E.coli

Antimicrobial susceptibility testing can be performed by disk diffusion method (on Mueller-Hinton agar) or MIC-based method (VITEK).

Treatment is essentially based upon an antimicrobial susceptibility test report.

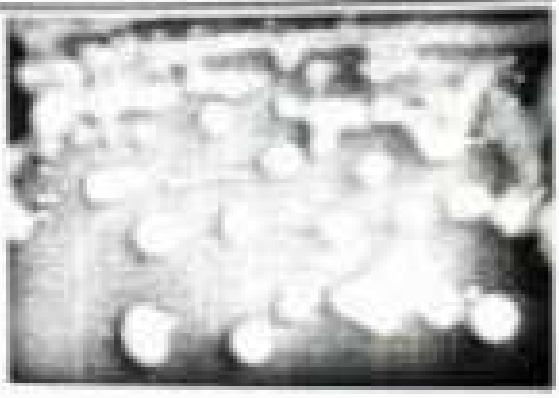
Carbapenems such as meropenem
ß lactam/ß lactamase inhibitor combinations such as piperacillin/tazobactam or cefoperazone/sulbactam
Aminoglycosides such as amikacin

Others: Fosfomycin or tigecycline, etc.

Infection control measures (contact precaution) such as hand hygiene are crucial to limit the spread of infection by multi-drug resistant Enterobacterales

KLEBSIELLA PNEUMONIAE

Evolution of *Klebsiella pneumoniae*



Klebsiella pneumoniae is a Gram-negative, non-motile, encapsulated (coated in polysaccharide), lactose-fermenting, facultative anaerobic (able to make ATP in presence of O2, but converts to fermentation in anaerobic conditions), rod-shaped bacterium.

Although found in the normal flora of the mouth, skin, and intestines, it can cause destructive changes to human lungs if aspirated.

In clinical settings, it is the most significant member of the *Klebsiella* genus of Enterobacteriaceae.

Klebsiellae have become important pathogens in hospital-acquired (nosocomial) infections.

Similar to E. coli, Klebsiella pneumoniae can cause UTI, lobar pneumonia, meningitis (in neonates), septicemia, pyogenic infections such as abscesses, and wound infections.

Laboratory diagnosis: K. pneumoniae is also a lactose fermenter
Direct smear microscopy:
Shows gram negative bacilli, and pus cells

* Culture:
Incubation at 37°C for 24h reveals the following growth:
Blood agar: Grey, moist colonies on MacConkey agar: Flat, pink LF colonies

It differs from E.coli in being non-motile, capsulated, and produces mucoid colonies

Identification can be done by various conventional biochemical tests such as catalase, oxidase, Indole, Citrate, Urease, Triple sugar iron (TSI) test or by automated ID systems such as VITEK and MALDI-TOF.

Treatment for K. pneumoniae is Carbapenems such as meropenem
ß lactam/ß lactamase inhibitor combinations such as piperacillintazobactam or cefoperazonesulbactam
Aminoglycosides such as amikacin

Others: Fosfomycin or tigecycline, etc.

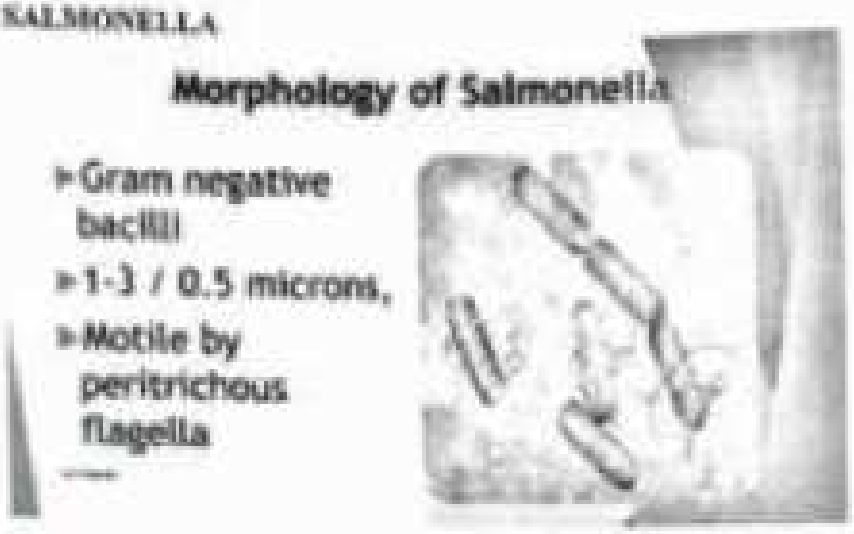
Other Klebsiella species include:

Klebsiellagranulomatis: It causes granuloma inguinale, a type of genitoulcerative disease
K. rhinoscleromatisand K. ozaenae:

Produce infections of the nasal cavity, called rhinoscleroma and atrophic rhinitis respectively.
ENTEROBACTER SPECIES
Enterobacter species are similar to Klebsiella in clinical manifestations and also in most of the biochemical reactions except for being motile.
E. aerogenes and E. cloacae are the most commonly isolated species from the clinical specimens.
Treatment of Enterobacter infections is same as discussed for E. coli.
CITROBACTER SPECIES

Citrobacter species are environmental contaminants, but species such as. C. freundii and C. koseri can cause human infections. *
Manifestations: They occasionally cause urinary tract, gallbladder and middle ear infections and neonatal meningitis

SALMONELLA



Salmonellae are broadly classified into two groups, based on the clinical disease produced:

1. Typhoidal Salmonella:
It includes serotypes S. Typhi and S. Paratyphi. They are restricted to human hosts, in whom they cause enteric fever.

2. Non-typhoidal salmonellae or NTS:
The remaining serotypes can colonize the intestine of a broad range of animals, including mammals, reptiles, birds, and insects. They also infect humans causing food-borne gastroenteritis and septicemia.

ENTERIC FEVER

Enteric fever is a potentially fatal multisystem illness caused by Salmonella Typhi (typhoid fever) and, S. Paratyphi A, B and C (paratyphoid fever).

Pathogenesis

Salmonellae are transmitted by oral route, through ingestion of contaminated food or water.

Risk factors that promote transmission include the conditions that decrease gastric acidity and intestinal integrity
Primary bacteremia:
The bacilli enter through a specialized epithelial cell lining the intestinal mucosa called M cells.

Following this, they are internalized by macrophages and are carried to the bloodstream

Spread:
There, the bacilli disseminate throughout the body such liver, spleen, lymph nodes and bone marrow, etc. where further multiplication takes place and then seeded back into the bloodstream **(secondary bacteremia, which leads to the onset of clinical disease.**

Antigenic structure

Salmonellae possess the following antigens, based on which they are classified and identified:

H antigen:
This antigen, which is present on the flagella, is a heat-labile protein. It is destroyed by boiling or by treatment with alcohol but not by formaldehyde. When mixed with antisera, H suspensions agglutinate rapidly, producing large, loose, fluffy clumps.
The H antigen is strongly immunogenic and induces antibody formation rapidly and in high titres following infection or immunisation.

O antigen:

The somatic O antigen is a phospholipid-protein-polysaccharide complex which forms an integral part of the cell wall. It is identical to endotoxin.
The O antigen is unaffected by boiling, alcohol or weak acids. When mixed with antisera, O antigen suspensions form compact, chalky, granular clumps. The antibody to the O antigen is cross-reactive while that to the H antigen is a more reliable indicator.

Vi antigen:
It is surface polysaccharide antigen which envelops the O antigen. It is heat-labile and is present in S. Typhi, S. Paratyphi C and S. Dublin. The protective efficacy of the Vi antigen is demonstrated by the success of the purified Vi vaccine for typhoid, now in routine use.
Clinical Manifestations of Enteric Fever

The incubation period is about **10-14 days**. Enteric fever is named after the mode of transmission (enteric route) of its causative agent. However, the manifestations seen are largely extraintestinal.

Fever (**step ladder pattern of remittent fever**): Fever rises gradually to a higher level with every spike; then falls, but does not touch normal

Other symptoms: Headache, chills, cough, sweating, myalgia, and arthralgia

* **Rashes (called rose spots):** Faint, salmon colored, blanching, maculopapular rash on the trunk and chest seen in 30% of patients at the end of the first week

* Early intestinal manifestations such as abdominal pain, nausea, vomiting, constipation or diarrhea, and anorexia

* Important signs include hepatosplenomegaly, epistaxis, and relative bradycardia

Complications:

Gastrointestinal bleeding and intestinal perforation can occur mostly in the third and fourth weeks of illness

Neurologic manifestations occur rarely which include meningitis, and neuropsychiatric symptoms such as delirium, etc.

Laboratory Diagnosis

(A) **Blood Culture (First week of illness)**

In the first week of illness, a blood culture is recommended.

Conventional blood culture on media such as brain heart infusion (BHI) broth (monophasic media) or BHI broth/agar (biphasic media)

Automated blood culture systems such as BACTEC or BacT/ ALERT

Blood culture positivity is >90% in the first week and thereafter it gradually declines

If blood culture is found negative, **bone marrow culture or culture from duodenal aspirate may be performed in the first week of illness.**

(B) **Stool/urine Culture (in 3-4 weeks of illness)**

Stool or urine culture is indicated in 3-4 weeks of illness, and also for detection of carriers:

For stool culture the following media are used: =

Enrichment broth such as Selenite F broth, tetrathionate broth, and gram negative broth

Low selective medium such as MacConkey agar: Produces translocent NLF colonies m

Highly selective media:

DCA (deoxycholate citrate agar), XLD agar (xylose lysine deoxycholate), and Wilson Blair's Bismuth sulphite medium are used.

A urine culture can be performed on media such as MacConkey agar.

(C) Identification

Salmonellae are motile, gram negative bacilli.

Identification from the colonies grown in culture is made either by automated ID system such as VITEK, or
by conventional biochemical tests such as catalase, oxidase, indole, citrate, urease and TSI
A slide agglutination test is performed to confirm the serotype.
) Widal test (Serum antibody detection)

Widal test is indicated in 2-3 weeks of illness. It is a tube agglutination test, that detects antibodies in the patient's serum against antigens of Salmonella Typhi and S. Paratyphi.
Antigens: In the Widal test, four different antigens are used such as:

-O antigen of S. Typhi (TO)
It is cross-reactive to O antigens of S. Paratyphi A and B. Therefore, TO antigen can detect O antibody of S. Typhi, as well as S. Paratyphi A and B
-H antigen of S. Typhi (TH)
-H antigen of S. Paratyphi A (AH)
-H antigen of S. Paratyphi B (BH)
Procedure:
Serial dilutions of patient serum are mixed with four different Salmonella antigens (TO, TH, AH, and BH) and the tubes are incubated in the water bath at 37°C for 24 hours

Result:
The result is read using a concave mirror. If corresponding antibodies are present, then an agglutination reaction will occur leading to matt formation. The absence of antibodies would lead to button formation

The results are interpreted as below:
In S.Typhi infection: Antibodies to IO and TH antigens are raised

In S.Paratyphi A infection: Antibodies to IO and AH antibodies are raised

In S.Paratyphi B infection: Antibodies to IO and BH antibodies are raised.

False-negatives:
The Widal test may produce a false-negative result in a very early stage (1st week) or due to prior antimicrobial therapy or due to prozone phenomena (antibody excess)

False-positive:
Widal test may produce a false-positive result in presence of cross-reacting infections (called anamnestic reactions).

Other Tests
Antigen detection (serum and urine): BY ELISA
Molecular methods:

PCR detecting flagellin gene,
Nonspecific findings For example neutropenia(An abnormally low count of a type of white blood cell (neutrophils)).
Antimicrobial susceptibility test in can be performed by disk diffusion test or MIC-based automated system (e.g. VITEK)

TREATMENT
Enteric fever Third generation cephalosporins such as ceftriaxone is the drug of choice for empirical treatment.

Alternative drugs are azithromycin, ciprofloxacin, chloramphenicol, ampicillin, and cotrimoxazole.
Vaccines for Typhoid Fever

There are two types of typhoid vaccines available currently.

1. Vi antigen vaccine:
It is composed of purified Vi capsular polysaccharide antigen derived from S. Typhi strain Ty2 a
It is given as a single dose, by IM or subcutaneous route
The vaccine confers protection for 2 years; a booster is given every 2 years.
2. Typhoral:
It contains live attenuated S. Typhi Ty21a strain
It is given orally as enteric-coated capsules
Four doses, given on alternate days a
Revaccination is recommended every 5 years.
3. Tab vaccine:
No longer in use

SALMONELLA GASTROENTERITIS (NON-TYPHOIDAL SALMONELLA)

SALMONELLA GASTROENTERITIS (NON-TYPHOIDAL SALMONELLA)

Salmonella gastroenteritis (more appropriately, enterocolitis) or food poisoning is generally a zoonotic disease, the source of infection being animal products. It may **be caused by non-typhoidal salmonellae.**
In most parts of the world, S typhimurium is the most common species

Human infection results from the ingestion of contaminated food, mainly poultry (including eggs and egg products), meat, milk and milk products.
A short **incubation period of 24 hours or less with diarrhoea, vomiting, abdominal pain and fever** are the main clinical features.
It usually subsides in 2-4 days.
In some cases, a more **prolonged enteritis develops with the passage of mucus and pus in feces, resembling dysentery.**
In a few, typhoidal or septicemic type of fever may develop. The etiological diagnosis is confirmed by the culture of feces.
In outbreaks of food poisoning, the causative organism can be isolated from the article of food.
Control is by adhering to personal and food hygiene.
For uncomplicated, noninvasive Salmonella gastroenteritis, antibiotics should not be used.
However, for serious invasive cases, antibiotic treatment is needed.

SHIGELLA
BACILLARY DYSENTERY

Shigella is the causative agent of bacillary dysentery.
It comprises four species—
S. dysenteriae,
S. flexneri,
S. boydii and
S. sonnei.
Transmission of infection
occurs by ingestion through contaminated fingers (most common), food, water, or rarely flies.
Risk factors
include overcrowding, poor hygiene, and children, etc.
Minimum infective dose:
As low as 10-100 bacilli are capable of initiating the disease, probably because of their ability to survive in gastric acidity

The results are interpreted as below: . .
In S.Typhi infection: Antibodies to TO and TH antigens are raised

In S.ParatyphiA infection: Antibodies to TO and AH antibodies are raised

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include overcrowding, poor hygiene, and children, etc.
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MORPHOLOGY AND STAINING:

- Short rods
- - Non-encapsulated
- - Non-motile
- - Non-spore former
- - Gram-negative

Pathogenesis
is due to the expression of various toxins such as Shigella enterotoxin (by S. flexneri), Shiga toxin (by S. dysenteriae) endotoxin (by all species)
Clinical features:
Bacillary dysentery is characterized by the passage of loose stool mixed with blood and mucus
Shiga toxin (S. dysenteriae) is similar to verocytotoxin (of EHEC) and is associated with complications such as hemolytic uremic syndrome and hemorrhagic colitis
Rarely, may be associated with intestinal complications such as toxic megacolon,
perf**Laboratory diagnosis**
Isolation of organism from diarrheic stool specimen using
enrichment medium such as selenite F medium and
selective media such as DCA (deoxycholate citrate agar) or XLD (xylose lysine deoxycholate) agar,
followed by identification by using appropriate biochemical reactions or **automated ID method (like VITEK)**

Antimicrobial susceptibility testing can be performed by disk diffusion test or VITEK.

Treatment of shigellosis includes
fluid replacement and antimicrobials such as ciprofloxacin orations, and rectal prolapse.

TRIBE PROTEEAE ; PROTEUS, MORGANELLA, AND PROVIDENCIA

TRIBE PROTEEAE

Tribe Proteae comprises three genera: **Proteus, Morganella, and Providencia.**

Although they are saprophytes and commensals; they can also cause opportunistic infections

such as urinary tract infections , wound and soft tissue infections, septicemia and nosocomial outbreaks.

Proteus is also involved in the pathogenesis of renal stones (struvite/phosphate stones)

Laboratory diagnosis:

Proteus produces following features.

- (i) Culture

- a) Media used: Blood agar, MacConkey agar , CLED agar

b) Cultural Characteristics:

- Blood agar – Swarming is observed with characteristic putrid fishy odor
- MacConkey agar- smooth ,colorless colonies

Identification of various members are made based on conventional biochemical tests or automated ID methods such as MALDI-TOF and VITEK.

Antimicrobial susceptibility testing can be performed by disk diffusion test or VITEK –

Treatment

is the same as discussed for E. coli, except that

Tribe Proteae are intrinsically resistant to certain antimicrobial agents (e.g. colistin, tigecycline, etc.) which should be avoided in the treatment

YERSINIA SPECIES

YERSINIA PESTIS (PLAGUE)

it is the causative agent of plague, a fulminant systemic zoonosis; transmitted from rodents by the arthropod vector, the rat flea.

Clinical forms: Human plague occurs in three clinical forms

(1) bubonic plague

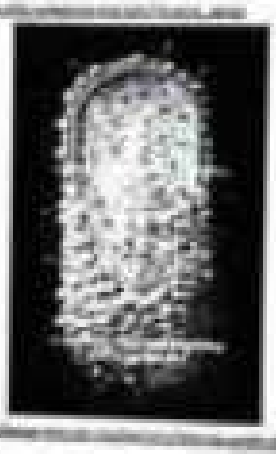
(most common form, characterized by enlarged and tender regional lymph nodes),

(2) pneumonic plague, and

(3) Septicemic plague

Yersinia pestis

- Bacteria responsible for the Black Death, which killed over 1/3 of European population from 1347-1353
- Gram negative, rod shaped coccobacillus
  - Unique morphology between cocci and bacilli
- Obligate intracellular pathogen
  - Facultative anaerobe
- Primary carriers are the Oriental rat flea and infected rodents
- Produce antiphagocytic slime layer in its path
- Genome size of strain CO92 is 4.65 Mbp and strain KIM is 4.6 Mbp
  - 4,198 total ORFs



LABORATORY DIAGNOSIS

Depending upon the type of plague, the specimens collect are: pus or fluid aspirated from buboes sputum and blood

Direct microscopy:

Reveals gram- negative oval coccobacilli and pus cells

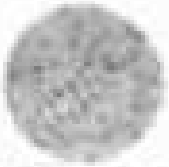
Wayson staining demonstrates bipolar or safety pin appearance of the bacilli

Culture media used are:

Blood agar (non hemolytic colonies) and MacConkey agar (NLF colonies)

Identification from colonies is either; by automated identification system: (e.g. MALDI-TOF) or by conventional biochemical tests.

Yersinia pestis



PSEUDOMONAS AERUGINOSA

PSEUDOMONAS AERUGINOSA

Pp. aeruginosa is a major pathogenic species, causing infections among hospitalized patients and in patients with cystic fibrosis.

Pathogenesis

The pathogenesis is greatly attributed to its ability to develop widespread resistance to multiple antibiotics and disinfectants and produce several virulence factors.

Toxins, e.g. exotoxin A. It acts by inhibiting protein synthesis

Enzymes, e.g. phospholipases, elastases,etc. ♯ Pigments: Pseudomonas produces various pigments such as:

Pyocyanin: It is a blue-green pigment, produced only by P. aeruginosa

Pyoverdin: Itis greenish-yellow pigment, produced by most species

Pyorubin: This pigment imparts red color

CLINICAL MANIFESTATIONS

Treatment:

Streptomycin or gentamicin is recommended for treatment.

Yersiniosis Infections due to other Yersinia species such as

Y. enterocolitica or Y. pseudotuberculosis are called yersiniosis.

They are enteropathogenic and cause gastroenteritis, terminal ileitis, and mesenteric lymphadenitis

Most of the infections are encountered in hospitalized patients who get colonized with the organisms either from the heavily contaminated hospital environment or from the hospital staff (through contaminated hands).
Colonized patients develop the disease in the presence of underlying risk factors such as burn wounds, patients with immunosuppression, and post surgeries.
The manifestations are as follows:

* Healthcare-associated infections such as—
(i) ventilator-associated pneumonia (VAP),
(ii) central-line associated bloodstream infection (CLABSI),
(iii) catheter-associated urinary tract infection (CAUTI),
(iv) surgical site infection (SSI)

Chronic respiratory tract infections:
It occurs in patients with underlying conditions that cause airway damage such as cystic fibrosis, or bronchiectasis.
Bacteremia leading to sepsis and septic shock

* **Infective endocarditis** (native valves): It occurs among IV drug abusers

* **Ear infections**: The infections are either mild, such as swimmer's ear (among children), or serious necrotizing form designated as malignant otitis externa (in elderly diabetic patients)
Eye infections such as corneal ulcers (in contact lens wearers) and endophthalmitis secondary to bacteremia

* **Shanghai fever**: It is a mild febrile illness resembling typhoid fever

* **Skin and soft tissue infections** such as burns wound infection, ecthymagangrenosum, green nail syndrome, and cellulitis with blue-green pus

* **Other infections:** Bone and joint infections such as osteomyelitis and septic arthritis and meningitis (in postoperative or posttraumatic patients).

LABORATORY DIAGNOSIS

Specimen collection depends upon the site of infection, such as—pus, blood, tracheal aspirate, sputum, wound swab, urine, etc.

Direct smear:
Reveals gram-negativebacilli, and pus cells
Culture: Incubation at 37°C aerobically for 24 h yields the following growth
Nutrient agar: Opaque, irregular colonies with metallic sheen and blue green diffusible pigments
Blood agar: ß-hemolytic gray moist colonies
MacConkey agar: Non-lactose fermenting (NLF) colonies
Selective media such as cetrimide agar may be used.
Culture smear and motility: Motile, gramnegative bacilli

Identification from the colonies is made by automated ID systems such as MALDI-TOF or VITEK or by conventional biochemical tests such as—catalase (positive), oxidase (positive), indole, citrate, urease, TSI, etc.

* **AST: Antimicrobial susceptibility testing** is performed by disk diffusion test or by automated MIC detection method (eg. VITEK).

TREATMENT

P. aeruginosa

Pseudomonas aeruginosa is intrinsically resistant to ceftriaxone, amoxicillin-clavulanate. Therefore, these drugs should not be used in the therapy

Only limited agents have good anti-pseudomonal action such as ceftazidime, piperacillintazobactam, carbapenems, amikacin, quinolones (ciprofloxacin or levofloxacin), etc.

PREVENTIVE MEASURES

Infection control measures (contact precaution) such as hand hygiene are crucial to limit the spread of Pseudomonas infection in the hospitals

ACINETOBACTER SPECIES

They are saprophytic bacilli, can cause widespread healthcare-associated infections, especially in patients with underlying diseases and immunosuppression.

Clinical manifestations:

Acinetobacter baumannii causes widespread healthcare associated infections such as: Ventilator associated pneumonia

Central line associated bloodstream infection

Catheter associated UTI

Wound and soft tissue infections

Infections in burn patients.

Laboratory diagnosis:

It is a nonfermenter, but differs from P. aeruginosa, by being nonmotile, oxidase negative, does not produce any pigment.

Antimicrobial susceptibility testing is performed by disk diffusion test or by VITEK.

Treatment for Acinetobacter is similar to that of Pseudomonas, except that it responds to certain additional agents such as minocycline or tigecycline

Prevention:

Infection control measures such as improved hand hygiene are essential to prevent nosocomial infections due to Acinetobacter

BURKHOLDERIA SPECIES

Important species that are pathogenic to man include B. cepacia complex and B. pseudomallei.

B. cepacia complex:
It inhabits a moist hospital environment and intravenous fluids; can cause fatal respiratory infections and septicemia in hospitalized patients with underlying diseases and immunosuppression

- **B. pseudomallei:**

It is the causative agent of melioidosis; which presents in various clinical forms ranging from acute localized infection, subacute pulmonary infection, bloodstream infection, and chronic suppurative infection ⁂

Diagnosis:
It shows bipolar staining in Gram-stained smear, intrinsically resistant to polymyxin B, and grows on selective media such as Ashdown's medium

Treatment:
Compromises of
(i) intensive phase (2 weeks) with ceftazidime or meropenem, followed by
(ii) maintenance phase (12 weeks) with Oral cotrimoxazole.

FASTIDIOUS GRAM-NEGATIVE BACILLI INCLUDE HAEMOPHILUS, BORDETELLA, AND BRUCELLA

HAEMOPHILUS SPECIES

Haemophilus species are pleomorphic gramnegative bacilli that require special growth factors (such as X factor or V factor or both).

HAEMOPHILUS INFLUENZAE
It is the most pathogenic species; causespneumonia and meningitis in children. Itrequires both X and V factors for its growth.

PATHOGENESIS:
It is capsulated, which is the main virulent factor. Based on capsular polysaccharide antigen, it can be typed into 6 serotypes (a to f)—serotype b being the most pathogenic and invasive

CLINICAL MANIFESTATIONS:
The spectrum of illness can be divided into:
- Invasive infections such as pneumonia,bacteremia, meningitis, and epiglottitis(spread through blood)
- Noninvasive infection such as otitis media, sinusitis, etc.(spread locally from throat and cause secondary infection)

LABORATORY DIAGNOSIS:
It is fastidious, grows in chocolate agar, not in blood agar
But it can grow on blood agar, adjacentto the Staphylococcus aureus streakline—a unique property described as **satellitism.**
Factor X (hemin) is present in blood agar and factor V is released from S. aureus(a co enzyme). Therefore larger colonies are formed adjacent to S. aureus streak line and size of the colonies decreases gradually away from the S. aureus streak line
IDENTIFICATION is confirmed by disc test for X and V requirements or automated ID; systems such as MALDI TOF.

TREATMENT:
Ceftriaxone is given for treatment
VACCINES

Hib conjugate vaccine (H. influenzae type b) is available for children. Under the national immunization program, i is given as a part of the pentavalent vaccine at 6, 10, and 14 weeks.

BORDETELLA PERTUSSIS

The species responsible for pertussis or whooping cough infection in human is Bordetella pertussis (pertussis means intense cough).

MORPHOLOGY

B. pertussis is a small, ovoid gram-negative coccobacillus of uniform size and shape. It is non-motile and non-sporing. It is capsulated but tends to lose the capsule on repeatedcultivation. Bipolar metachromatic granules may be demonstrated on staining with toluidine blue.

CULTURE

It is an obligate aerobe and grows best at 35-36°C. Special media commonly used include Bordet-Gengou-glycerine potato-blood agar and charcoal blood agar. Plates are incubated in high humidity at 35-36°C. Growth is slow

PATHOGENESIS

B. pertussis is an obligate human parasite and is responsible for whooping cough or pertussis in humans.
Infection occurs through aerosols and close contact.
In the initial stages, the bacilli are confined to the nasopharynx, trachea and bronchi.
As the disease progresses, inflammation extends into the lungs, producing diffuse bronchopneumonia with desquamation of the alveolar epithelium.

The onset is insidious, with low-grade fever, catarrhal symptoms and a dry, irritating cough. Later, paroxysms develop and the patient experiences violent spasms of continuous coughing, followed by a long in-rush of air into the almost empty lungs with a characteristic whoop (hence the name whooping cough).
The disease usually lasts 6-8 weeks.

Diagnosis is mainly clinical. Respiratory samples can be collected by per nasal swab, post-nasal swab or using the cough plate method. Complex media are necessary for primary isolation.

TREATMENT AND PROPHYLAXIS

Erythromycin or clarithromycin and azithromycin are the drugs of choice.
Specific immunisation with killed B. pertussis vaccine has been found very effective and is part of triple vaccine-DPT.
Acellular vaccines containing the protective components of the pertussis bacillus are also in use.

BRUCELLA SPECIES

Brucellosis is a highly contagious zoonotic febrile illness called undulant fever or Malta fever.

AGENTS:

Brucella melitensis is the most common species, affects sheep and goat.

Other species are B. abortus (cattle), B. canis (dog), etc.

TRANSMISSION:
Transmitted from infected animals to man by various modes such as direct contact or by eating or drinking unpasteurized/raw dairy products

CLINICAL MANIFESTATIONS:
Overall brucellosis resembles typhoid-like illness. It manifests as a triad of fever, arthralgia, and hepatosplenomegaly
Fever is undulating in nature, i.e. afebrileperiod between febrile periods
Musculoskeletal involvement is common such as vertebral osteomyelitis or septic arthritis. .
LABORATORY DIAGNOSIS:
Specimen collected are blood or bone marrow m
Culture:
Blood culture or bone marrow culture is performed either by using
(i) conventional blood culture bottles, or
(ii) Castaneda's biphasic media (Bill broth/agar), or
(iii) automated blood culture systems like BacT/ALERT m
Detection of antibodies by serological tests such as standard agglutination test (SAT) or ELISA.
TREATMENT: Comprises of doxycycline, in combination with rifampicin or streptomycin, given for alonger duration (6 weeks).

HELICOBACTER PYLORI

Helicobacter pyloris a curved gram-negative rod that colonizes the stomach.

Clinical manifestations:
H. pylori is associated with the pathogenesis of the following conditions:

a. Acute gastritis involving the antrum region
b. Peptic ulcer disease (duodenal and gastric ulcers):
It presents with epigastric pain with a burning sensation; develops either following a meal (as in duodenal ulcer) or in an empty stomach (as in gastric ulcer)
c. Adenocarcinoma of stomach

Diagnosis:
Urea breath test and biopsy urease test are the preferred methods.
Other diagnostic modalities include: ® Fecal antigen (coproantigen) assay ® Culture using Skirrow's media andchocolate agar and incubating the plates at 37°C under microaerophilicondition *
Treatment includes a triple-drug regimen, comprising omeprazole, clarithromycin, and metronidazole; given for 7-14 days.

MAINTENANCE OF NORMAL BODY ALIGNMENT AND ACTIVITY

Body alignment is achieved by placing one body part in line with another body part in a vertical or horizontal line. Correct alignment contributes to body balance and decreases strain on muscle-skeletal structures. Without this balance, the risk of falls and injuries increase. In the body mechanics, the centre of gravity is the centre of the weight of an object or person. A lower centre of gravity increases stability. This can be achieved by bending the knees and bringing the centre of gravity closer to the base of support, keeping the back straight. A wide base of support is the foundation for stability. A wide base of support is achieved by placing feet a comfortable, shoulder width distance apart. When a vertical line falls from the centre of gravity through the wide base of support, body balance is achieved. If the vertical line moves outside the base of support, the body will lose balance.

IMMOBILITY

It is the inability to move the whole body or a part of body. The individual is confined to a position and is unable to move or change positions independently.

Causes of Immobility

1. Health conditions: Chronic or Acute Disease affects the mobility of a person, for example:

a. Musculoskeletal: Congenital or acquired abnormalities

b. Nervous System: Stroke

c. Cardiovascular: Orthostatic Hypotension

d. Metabolic: Affects Normal Metabolic Functioning

2. Nutrition: Poor nourishment will have muscle weakness and fatigue.

3. Vitamin D deficiency causes bone deformity

4. Obesity can distort movement and Stress joints, adversely affecting mobility. 5. External factors: Many external factors affect a person's mobility, excessively high low temperatures. High humidity and unsafe environment adversely affects mobility.

Impact of Immobility on the Body System

1. Circulatory: Pooling of blood, reduced circulation, increased pressure on legs leading to blood clots, increased risk of edema, increased workload on heart and decreased blood pressure.

2. Endocrine: Changes in utilization of food leading to increased fat stores and glucose intolerance, increased insulin requirements for carbohydrate metabolism. Changes in hormone balance, i.e. disturbed sodium water balance.

3. Gastrointestinal: Risk for heartburn, indigestion, and aspiration due to positioning and inability to sit upright during meal and for one hour after meals. Loss of appetite from reduced activity, depression, boredom and illness. Decreased peristalsis, decreased intake of fluids and unnatural positioning for having a bowel movement using a bedpan promotes and contributes to constipation, impaction, nausea, vomiting and ileus.

4. Genitourinary: In adequate position may cause difficulty voiding and inability to empty bladder completely and leads to frequency of urination or overflow incontinence may occur.

5. Integumentary: Heat, pressure and reduced oxygenation of skin increases the risk of pressure ulcers. The inability to reposition independently further increases risk of pressure ulcers.

6 Muscular: Often the first system to show the effects of immobility, reduced muscle mass, strength, and oxidative capacity. Muscles begin to feel stiff and sore on movement, movement progressively becomes more difficult. Contractures may begin and it causes capillary occlusion at bony prominences, contributing to pressure ulcers.

7. Nervous: Weakness, loss of independence and limitedmobility may cause depression, anxiety, restlessness, irritability, boredom, apathy, disorientation, passiveaggressive verbal and non-verbal communication, mood swings, restlessness, withdrawal, social isolation, regression, altered body image and feelings of helplessness.

8. Respiratory: Difficulty expanding lungs fully/taking a deep breath due to one position. Cough weakens, reducing ability to clear secretions so retained secretions remain in airway, causing collapse ofalveoli.

NURSING INTERVENTIONS FOR IMPAIRED BODY ALIGNMENTAND MOBILITY

Impaired physical mobility represents a complex health care problem that involves many different members of health care team. Ongoing assessment is essential in order to identify potential problems that may lead to impaired physical mobility. Some common nursing interventions to prevent complications are:

1. Assist patient for muscle exercises as able or when allowed out of bed; execute abdominal-tightening exercises and knee bends; hop on foot, stand on toes. Patient gains sense of balance and strength.

2. Provide a safe environment to reduce the risk of fall.

3. Establish measures to prevent skin breakdown and thrombo-phlebitis from prolonged immobility. Clean, dry, and moisturize skin as necessary.

a. Use anti embolic stockings or sequential compression devices, if appropriate.

b. Use pressure-relieving devices as indicated (pilmattress).

4. Perform passive or active assistive ROM exercises to all return, prevents stiffness, and maintains muscle strength.

5. Promote and facilitate early ambulation whenpossible. Aid with each initial change: dangling legs, sitting in chair, ambulation as these movements keeps the patient as functionally working as possible. Earlymobility increases self esteem.

6. Show the use of mobility devices, such as the following: trapeze, crutches, or walkers as these devices can compensate for impaired function and enhance level of activity. The goals of using such aids are to promote safety, enhance mobility, avoid falls, and conserve energy.

7. Provide the patient of rest periods in between activities. Rest periods are essential to conserve energy.

8. Turn and position the patient every 2 hours or as needed.

9. Keep limbs in functional alignment with one or more of the following: pillows, sandbags, wedges, or prefabricated splints. This avoids foot drop and too much plantar flexion or tightness. Maintain feet in dorsiflexed position.

10. Present suggestions for nutritional intake for adequate energy resources and metabolic requirements. Correct nutrition is necessary to keep sufficient energy level.

11. Encourage a diet high in fiber and liquid intake of 2000 to 3000 ml per day unless contraindicated, liquids maximize hydration status and avoid hardening of stool. It also decreases risk of skin irritation of breakdown.

12. Provide medications such as Antispasmodic medications as they reduce muscle spasms or spasticity that interferes with mobility; analgesics may reduce pain that impedes movement.

Nursing interventions for preventing musculoskeletal complications	
Nursing Interventions	Rationale
Assess the physical activity level and mobility of the patient.	Provides baseline information for formulating nursing goals.
Assess the patient's nutritional status.	Adequate energy reserves are needed during activity.
Assess the need for ambulation aids (e.g. cane, walker) for ADLs.	Assistive devices enhance the mobility of the patient by helping him overcome limitations.
Assist with ADLs while avoiding patient dependency.	Assisting the patient with ADLs allows conservation of energy.
Encourage active ROM exercises. Encourage the patient to participate in planning activities that gradually build endurance.	Exercise maintains muscle strength, joint ROM, and exercise tolerance. Physical inactive patients need to improve functional capacity through repetitive exercises over a long period of time.
Assess the patient's comfort and knowledge regarding use of assistive devices.	The correct use of assistive devices for ambulation can improve mobility and reduce the risk of fall. Some patient refuses to use assistive devices because they attract attention to their disability.
Provide a restful environment and encourage periods of rest and sleep.	Minimizing stressors and unnecessary disturbances reduces cardiac workload and oxygen demand.
Encourage rest, semi-recumbent in bed or chair. Assist with physical care as indicated.	Physical rest should be maintained to improve cardiac contraction efficiency and decrease myocardial oxygen demand/ consumption and workload.
Provide a quiet environment.	Assistive devices enhance the mobility of the patient by helping him overcome limitations.
Provide high fowler's position.	Allows for better chest expansion, thereby improving pulmonary capacity. In this position, the venous return to the heart is reduced.
Check for calf tenderness, diminished pedal pulses, swelling, local redness, or pallor of extremity.	The risk for thrombophlebitis increases with enforced bed rest, reduced cardiac output, and venous pooling.
Elevate legs, avoiding pressure under the knee or in a position comfortable to the patient.	Decreases venous return and preload and may reduce the incidence of thrombus or embolus formation.
Reposition patient every two (2) hours.	For patients under bed rest, prolonged immobility should be avoided to prevent the risk of development of pressure sore.
Provide bedside commode, provide stool softeners as ordered.	Using a bedside commode decreases work of getting to the bathroom or struggling to use a bedpan

Provide aspirin or anti platelet agent.	To prevent thrombus and embolus formation in the presence of risk factors such as venous stasis, enforced bed rest, cardiac dysrhythmias
Nursing interventions to prevent cardiac complications	
Interventions	Rationale
Monitor respiratory rate, pattern, use of intercostals muscles and breath sounds.	To assess basic condition and its related progress or lack of progress.
Raise head of bed 30 degrees or more if not contraindicated.	Allow gravity to assist in lowering the diaphragm and provide greater chest expansion.
Instruct in diaphragmatic deep breathing and pursed-lip breathing.	Promote lung expansion and slightly increase pressure in the airways, allowing them to remain open longer, increases oxygenation and exhalation of carbon dioxide.
Provide suctioning or medication (bronchodilators) as ordered.	Promote chest expansion.
Administer oxygen as ordered.	Maintain arterial blood gases and reduce anxiety
Change the position of patient 2 hourly.	Promotes mobility of secretions and promotes lung expansion.
Encourage the patient's mobility as tolerated.	Promotes tolerance for activities and helps with lung expansion and ventilation.
Reduce anxiety and fear of the patient.	Reduction of stress helps to reduce the oxygen demand in the body.
Nursing interventions to prevent Integumentary complications	
Interventions	Rationale
Monitor the temperature for at least every 2 hourly.	To assess the baseline data regarding fever.
Monitor skin and mucous membrane integrity every 2 hourly.	Allows early detection of impaired tissue integrity which can lead to infection.
Maintain fluid and electrolytic balance. Monitor intake and output every hour.	Adequate hydration assist in maintaining body temperature
Maintain consistent room temperature.	Prevent overheating or overcooling due to environment
Identify the presence of causative organisms with cultures, if infection is present.	Identification of organism allows determination of most appropriate antibiotics therapy
Nursing interventions to preventing anxiety	
Interventions	Rationale
Encourage the patient to verbalize his problem	Helps to identify all contributing factors for anxiety
Assist the patient to learn to recognize and identify the symptoms of anxiety	Helps to identify the precipitating cause and anxiety experiences.
Provide calm and non threatening environment.	Helps to relax the patient.

Explain all procedures and rationale for procedures to patient.	Helps to increase patient cooperation.
Encourage the patient family members to stay with patient or provide patient with newspaper, books or conversation with patient.	Divert the mind of patient, he/she will focus on conversation or activity.
Help the patient to practice coping strategies such as progressive muscle relaxation technique, meditation or guided imagery.	These methods are successful to decrease anxiety.
Administer anti anxiety medications as ordered.	Medication helps to reduce anxiety

ASSISTIVE DEVICES

An assistive device is an object or piece of equipment designed to help a patient with activities of daily living.

Transfer belt or Gait belt:-

Used to ensure a good grip on unstable patients. The device provides more stability when transferring patients. It is a 2-inchwide (5 mm) belt, with or without handles that is placed around a patient's waist and fastened with Velcro. The gait belt must always be applied on top of clothing or gown to protect the patient's skin.

Mechanical lift:-

A mechanical lift is a hydraulic lift, usually attached to a ceiling, used to move patients who cannot bear weight, who are unpredictable or unreliable, or who have a medical condition that does not allow them to stand or assist with moving.

Slider board:-

A slider board is used to transfer immobile patients from one surface to another while the patient is lying supine. The board allows health care providers to safely move immobile, bariatric, or complex patients.

Special Considerations

1. Patient risk assessment or mobility assessment prior to using any assistive devices.

2. Use proper body mechanics when using assistive devices.

Pleural Effusion

Name of the

Introduction

The pleural cavity is the space between the visceral and parietal layers of the lungs. The cavity normally contains a small amount of pleural fluid (5-15 ml).

The outer pleura around the chest wall and diaphragm. The lung is covered by the inner pleura. The pleural fluid helps in the functioning of the lungs during breathing.

Pleural effusion - Definition

It is an abnormal excessive pleural fluid collection in pleural space.

- Fluid accumulate in the pleural cavity due to either altered hydrostatic and osmotic pressures or altered permeability of the pleura.
- It is an abnormal fluid accumulation in potential space in between parietal and visceral pleurae.
- Body is unbalance between formation and absorption in response to injury, inflammation locally and systematically.

Epidemiology

→ 1.5 million cases every year

→ In India, the most common cause is pulmonary tuberculosis and 15% of TB patients suffer from pleural effusion

Etiology:

→ PE is usually due to complications of heart failure, TB pneumonia, lower respiratory infections, nephrotic syndrome, connective tissue diseases, pulmonary embolism, and lung tumors

Pathophysiology

Increased production or decreased absorption of fluid
Increased hydrostatic pressure and or decreased oncotic pressure

↓

Shift of fluid into the interstitial space

↓

Pleural effusion

* Parietal pleura produces pleural fluid which is absorbed back by the lymphatic system
* Either excessive production or decreased absorption

of fluid results in the accumulation of fluid in the pleural cavity.

* This can alter the normal homeostatic mechanisms

* Increased hydrostatic pressure usually causes transudative effusion (eg: left ventricular failure)

* Inflammatory exudative effusion is generally caused by increased capillary permeability or impaired lymph drainage (eg: hypoalbuminemia)

* ↓ in pleural pressure (eg: atelectasis)

* ↑ permeability of microcirculation (eg: pneumonia)

* Impaired lymphatic drainage from pleural space eg: malignancy

* Movement of fluid from abdominal to pleural space (eg: cirrhosis)

* Increased vascular permeability allows migration of inflammatory cells (neutrophils, lymphocytes and eosinophils) into the pleural space.

* The process is mediated by a number of cytokines, such as interleukins IL-1, IL-6, IL-8, TNF (tumour necrosis factor) alpha and platelet activating factor released by mesothelial cells lining the pleural space.

* The result is the exudative stage of pleural effusion.

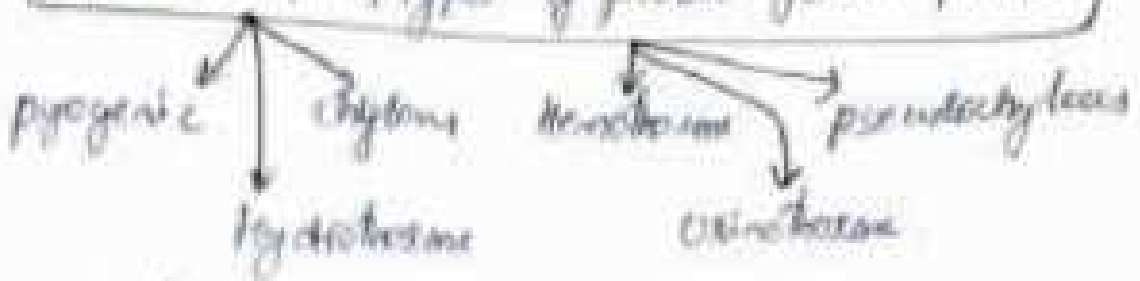
* This progresses to the fibropurulent stage
Increased fluid accumulation and bacterial invasion across the damaged epithelium.
* Neutrophil migration occurs as well as activation leading to processing of the coagulation cascade
activity and decreased fibrinolysis in the pleural space then
* Deposition of fibrin leads to septation i.e. (the division of a cavity into parts by septa) or loculation (compartmentalization of a fluid filled cavity into smaller spaces (locules) by fibrous septa)
* The pleural fluid pH and glucose level falls while lactate dehydrogenase (LDH) level increases

Classification

Site
- Apical
- Interlobar
- Subpulmonic
- Mediastinal

Mechanism & type of pleural fluid
- Transudative
- Exudative

Mechanism & type of pleural fluid formed:



Features	Transudative	Exudative
Definition	Non inflammatory process	Inflammatory process.
Cause	Usually due to imbalance in hydrostatic and oncotic forces in circulation	Usually due to increased capillary permeability or decreased lymphatic drainage
Associated with	- Congestive heart failure - Fluid overload - Nephrotic syndrome - Hepatic cirrhosis - malnutrition	- microbial infection - membrane inflammation - malignancy - connective tissue disease
Appearance	Clear, thin colourless pale yellow.	Turbid, haemorrhagic, thick coloured.
Fibrinogen	Low content of fibrinogen (low tendency to clot)	High content of fibrinogen
Specific gravity	* < 1.012	> 1.012
pH	> 7.3	< 7.3
Glucose	Same as plasma	Low (less than 60mg/dL)
Protein	< 3g/dL	> 3g/dL
% Protein	< 0.5	> 0.5
LDH	< 0.6 * UNL	> 0.6 *
WBC	< 1000/dL	> 1000 /mL
DC	Mononuclear cell (lymphocyte)	Polymorphonuclear cell
culture	Sterile	Positive.

Clinical Manifestations

The presence and severity of clinical manifestations depend on the cause of the pleural effusion. Common manifestations are:-

* Pain on inspiration and cough
* Inflammation of parietal pleura leads to pain in local (Intercostal) involved areas or referred (phrenic) distribution (shoulder)
* dyspnea is frequent and may be present and out of proportion to the size of the effusion.
* Pleural rub
* Breathlessness
* Tracheal shift in opposite side of affected area
* Reduced chest movement
* Feeling of fullness of affected side
* Dullness over fluid filled area
* Breathing and vocal fremitus decrease
* Bronchial crackle sound
* Grocco's triangle sign: A triangular area of dullness at the base of the chest near the spinal column on the side opposite a pleural effusion

Diagnostic Evaluation

1) History: Ask for the h/o cough, breathing difficulty, and chest pain

2) P/E - Decreased or absence of breath sounds, decreased fremitus, and a dull flat sounds on percussion, and tracheal deviation.
Bronchial breathing or crackles.

3) USG - rule out minimal fluid accumulation & guides thoracentesis

4) Chest X-ray & CT scan: to assess the location & volume of the pleural effusion.

5) Thoracentesis & pleural fluid analysis for bacterial culture, gram stain, acid fast bacillus stain (for TB), red & white blood cell counts, chemistry studies, cytological analysis for malignant cells and pH

6) Pleural biopsy: to rule out the underlying pathology such as malignancy

7) CT scan: to study more accurate the level and amount of fluid effusion. Also we can be identify (Classification of [illegible] <1.5 cm, moderate effusion 1.5-4.5 cm thick and large effusion exceeds)

8) Pleural fluid aspiration & analysis: to find out [illegible] [illegible], tumor markers, culture & sensitivity

9) Tumor markers: to study the tumor marker

Medical Management

The aims of treatment are to find ... and relieve symptoms, prevent reaccumulation of fluid and relieve ... the underlying cause of. The management depends on the underlying cause of pleural effusion.

- ✓ Pleural effusion fluid aspiration to relieve dyspnea, drain the fluid not more than ... to avoid ... edema
- ✓ Antibiotic based on culture & sensitivity by ... IV, clindamycin ...
- ✓ Oxygen therapy if $SPO_2 < 92\%$.
- ✓ Bed rest.
- ✓ Drugs: cefuroxime, co-amoxiclav, penicillin & flucloxacillin, clindamycin
- ✓ Chest tube thoracentesis indicated in pneumothorax, pleural fluid loculated, recurrent pleural effusion, malignancy, effusion ... more ... the hemothorax
- ✓ Chemical pleurodesis (doxycycline or minocycline instillation)
- ✓ Video assisted thoracoscopy (VATS) to drain with a single small bore tube
- ✓ Chronic indwelling pleural catheter ... of effusion related symptom via intermittent drainage

→ It is a therapeutic procedure applied to create ... symphysis b/w the parietal and visceral pleura by intra pleural administration of various chemical ...

Nursing Management:

Patient assessment:

A collection of relevant history and performing a physical examination

✓Assist in diagnostic studies:

- Implementing the medical treatment
- ✓ Provide therapeutic support.
- ✓ Manage pain - pharmacological & non pharmacological method
- ✓ Frequently change the position.
- ✓ Manage chest tube drainage.
- ✓ Assist in pre intra and post op care.

[signature]

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1. Sukhpal Kaur MHN-I MSN Jaypee publi..
page no: 218-220
2. MJ Kumari MHN-I MSN Jaypee publishers
page no: 153-155
3. SN Chugh MSN [illegible] Arichal publishers
page no: 420-428
4. Lewis MSN Elsevier publishers
page no: 520-522

Nursing Diagnosis

1. Ineffective breathing pattern related to accumulation of pleural effusion as evidenced by labored breathing and tachypnea

Expected outcome:

The patient will achieve an effective breathing pattern as evidenced by a respiratory rate of 12-20 bpm and oxygen saturation above 95%

Interventions

→ Assess the patient's respiration characteristics and vital signs

→ Review the patient's underlying condition

→ Administer antibiotics and diuretics as per doctor's order

→ Provide supplemental oxygen as prescribed

→ Elevate the patient's head of bed

→ Prepare for other procedures as per order

2. Acute pain related to inflammation and swelling of the pleura as evidenced by report of sharp or burning in the chest.

Outcome - Patient will report a decrease ... when breathing as evidenced by a pain rating ... and a relaxed ... respiratory ...

Interventions:

→ Assess the patient's pain level, characteristics, location

→ Observe nonverbal cues and pain behaviours

→ Administer prescribed pain medications such as ibuprofen

→ Provide nonpharmacological methods of pain mgt – repositioning, guided imagery and splinting the chest when coughing

→ Provide rest and simplify activities of daily living

→ Educate the patient on deep breathing exercise.

3. Impaired Gas exchange related to altered oxygen supply as evidenced by dyspnea and abnormal ABGs.

Outcome:-

The patient will exhibit improved gas exchange as evidenced by ABGs within normal limits.

Intervention

→ Auscultate lung sounds and note areas of diminished breath sounds or adventitious

→ Review laboratory values and imaging results

→ Assess and monitor the patient's oxygen saturation

- ⇒ Consider lateral positioning by elevating HOB to 45°
- ⇒ Provide supplemental oxygen as ordered
- ⇒ Encourage ambulation
- ⇒ Provide support to reduce anxiety

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Training Certificate

This is to certify that

Chinnu .

Completed the following training

Basics of Cardio-thoracic Surgery: Cardio-Pulmonary Bypass

Delivered in Video format by

Surgery Interest Group of Africa (SIGAf)

on

25th July 2023

Training Certificate

This is to certify that

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Completed the following training

A Doctor's Guide on Cardiological Emergencies with Dr Sunil Nadar

Delivered in Video format by

Medipath International

on

26th July 2023

Awarded 1 CPD hour by The Royal College of Surgeons of Edinburgh (RSCEd)
Sponsored by The Medical Defence Union (MDU)

Dr. M. Balvardjan, MD
Co-Founder, Medipath International

Dr. D. Bella, MB, MSc
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Certificates and feedback powered by Medipath

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SICS Evening Education Updates : Dr Alison Smyth : Management of Advanced Heart Failure

Delivered in Video format by

Scottish Intensive Care Society (SICS)

on

27th July 2023

Gilly Fleming
Chair, Education and Training Committee
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MVR

4th MVR CANCON

Certificate Of Participation

.....Mr. MUHAMMAD NIHAL K.....

has participated as a DELEGATE in the BMT NURSING WORKSHOP on 8th September 2023 as part of 4th MVR CANCON at MVR Cancer Centre and Research Institute Kozhikode, Kerala

MR BIJESH JOSEPH
CHIEF NURSING OFFICER

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INNOVATION AND ENTREPRENEURSHIP DEVELOPMENT CENTRE

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This is to certify that Mr/Miss/Mrs. SAKEENA SHERIN *has Successfully completed Basic Life Support initial certification course, skill practicing and testing conducted by an authorized (AHA) BLS/ACS instructors.*

Dr. Muhammed Fabin KP

Dr. Tijo Varghese

Prof. R. Magesh[illegible]

Principal KMCT College of Nursing

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PREVIOUS YEAR QUESTION PAPERS

Q.P. CODE: 311010 Reg. No: .....

Third Year B.Sc Nursing Degree Regular/Supplementary Examinations
October 2019

Medical Surgical Nursing (Adult Including Geriatrics - II)

(2016 Scheme)

Time: 3 Hrs Max. Marks: 75

- Answer all questions
- Draw diagram wherever necessary

Long Essay (12)

1. Define interventional cardiology. List down the indications for Percutaneous Coronary Intervention (PCI). Explain the nursing management of patients after coronary angioplasty. (2+3+7)

Short Essays (2x7=14)

2. Explain the emergency management of patients in cardiac arrest.
3. Describe the pathophysiology of traumatic brain injury

Short Notes (5x5=25)

4. Cancer of prostate
5. Crisis intervention
6. Disaster management in biochemical wars
7. Theories of aging
8. Complications of mechanical ventilation.

Differentiate between (3x4=12)

9. Concussion and contusion
10. Defibrillation and cardioversion
11. Homograft and xenograft

Answer Briefly (3x4=12)

12. Pap smear
13. Arterio venous fistula
14. Palliative care

****

2010 Scheme

Q.P. CODE: 301010 **Reg. No:** .....

Third Year B.Sc Nursing Degree Regular/Supplementary Examinations
October 2019

Medical Surgical Nursing (Adult Including Geriatrics - II)

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays **(2x15=30)**

1. Classify chemotherapy and explain the role of nurse while administering chemotherapy to a patient
2. Nursing management of patient after open heart surgery

Short Notes **(5x5=25)**

3. Risk factors for coronary artery diseases (CAD)
4. Principles followed in haemodialysis
5. Role of nurse in management of flood
6. Elderly falls prevention strategies
7. WHO pain management ladder

Give reasons for the following **(5x2=10)**

8. Urine output is strictly monitored after renal transplantation
9. Monitoring of peak airway pressure is important in patient on mechanical ventilation
10. Avoid restraining the patient during seizure
11. Logrolling technique is used to turn patient after spinal cord injury
12. Inj. Lasix is given in pulmonary oedema

Differentiate between **(5x2=10)**

13. Craniotomy and craniectomy
14. Allograft and autograft
15. Adrenaline and noradrenaline
16. Haemodialysis and peritoneal dialysis
17. Epidural hematoma and subdural hematoma

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Q.P. CODE: 301010 Reg. No: .....

Third Year B.Sc Nursing Degree Supplementary Examinations April 2019

Medical Surgical Nursing (Adult Including Geriatrics - II)

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays **(2x15=30)**

1. Discuss the radiation delivery methods, radiation side effects and the nurse's role in managing the side effects
2. Discuss the pathophysiology, diagnostic measures, medical and nursing management of a patient with acute respiratory distress syndrome

Short Notes **(5x5=25)**

3. Principles of critical care nursing
4. Disaster preparedness
5. Stress and coping in elderly
6. Peritoneal dialysis
7. Thrombolytic therapy

Give reasons for the following **(5x2=10)**

8. One of the side effects of chemotherapy is anemia
9. Turn the patient on the side during an episode of seizure
10. In an intercostal drainage system, the water seal chamber should always contain at least 2cm of water
11. Patients on pacemaker should avoid sources of strong electromagnetic fields such as large generators
12. Lumbar puncture is not done for patients with symptoms indicating severely increased intracranial pressure

Differentiate between **(5x2=10)**

13. Basic life support and advanced cardiac life support
14. Graft and flap
15. Electrocardiogram and echocardiogram
16. Pain in angina pectoris and pain in myocardial infarction
17. Central cord syndrome and anterior cord syndrome

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Q.P. CODE: 301010 Reg. No: .....

Third Year B.Sc Nursing Degree Supplementary Examinations April 2018

Medical Surgical Nursing (Adult Including Geriatrics - II)

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays **(2x15=30)**

1. Explain the pre-operative preparation of patient undergoing mitral valve replacement.
2. Describe the post operative complications of a patient undergone mitral valve replacement and its management.

Short Notes **(5x5=25)**

3. Ethical and legal issues in critical care unit
4. Oncologic emergencies
5. Complications of haemodialysis
6. Increased intra cranial pressure
7. Theories of aging

Give reasons for the following **(5x2=10)**

8. Immunosuppressants are given to patients after renal transplantation.
9. Squatting position is preferred by patients with cyanotic heart disease
10. Hourly urine output is monitored after cardiac surgery
11. Pulse rate is checked before administering digoxin
12. 30 degree head elevated position is given to patients with increased I.C.P (intra cranial pressure).

Differentiate between **(5x2=10)**

13. Benign tumour and malignant tumour
14. Ventricular fibrillation and atrial fibrillation
15. Hodgkin's lymphoma and non Hodgkin's lymphoma
16. Motor aphasia and sensory aphasia
17. Type I heart block and type II heart block

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Q.P. CODE: 301010 Reg. No: .....

Third Year B.Sc Nursing Degree Examinations October 2017

Medical Surgical Nursing (Adult Including Geriatrics - II)

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays **(2x15=30)**

1. Mr. Basheer, 28 years is admitted with history of fall from height and diagnosed as having cervical spine injury. Explain the pathophysiology and clinical manifestations in spinal injury. Describe the complications and its management. (3+4+8)
2. Explain the aetiology of acute myocardial infarction (AMI). Describe the confirmatory diagnostic tests of MI. Explain the management of patient with acute myocardial infarction. (4+4+7)

Short Notes **(5x5=25)**

3. Assessment of patient with head injury
4. Characteristics of malignant tumour.
5. Complications of renal transplantation.
6. Principles of critical care nursing.
7. Pulmonary oedema.

Give reasons for the following **(5x2=10)**

8. Mannitol is administered to patients with head injury.
9. Fruits and fruit juices are restricted in patients with chronic renal failure.
10. B.P monitoring is important in patients on nitro glycerine
11. Anaemia is common in patients receiving chemotherapy
12. P.T., INR values to be monitored in patients on anticoagulant.

Differentiate between **(5x2=10)**

13. Preload and after load
14. Tele therapy and brachytherapy
15. Anterior cord syndrome and central cord syndrome
16. Auto graft and allograft
17. Cardioversion and defibrillation

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Q.P. CODE: 311010

Reg. No: .....

Third Year B.Sc Nursing Degree Regular/Supplementary Examinations
May 2022

Medical Surgical Nursing (Adult Including Geriatrics - II)

(2016 Scheme)

Time: 3 Hrs **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

Long Essay (12)

1. Define respiratory failure. Write the pathophysiology for respiratory failure. Explain the nursing management of a patient with respiratory failure. (2+4+6)

Short Essays (2x7=14)

2. List down the risk factors and clinical manifestations of laryngeal cancer
3. Classification of seizures and medical management of a patient with epilepsy

Short Notes (5x5=25)

4. Cancer chemotherapy
5. Breast self-examination
6. Hospice care
7. Post-traumatic stress disorder
8. Heart transplantation

Differentiate between (3x4=12)

9. Atrial and ventricular dysrhythmias
10. Natural disaster and manmade disaster
11. Closed heart surgeries and open heart surgeries

Answer Briefly (3x4=12)

12. Complications of renal transplantation
13. Components of neurological examination
14. Principles of Hemodialysis

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2010 Scheme

Q.P. CODE: 301010 **Reg. No:** .....

Third Year B.Sc Nursing Degree Supplementary Examinations May 2022

Medical Surgical Nursing (Adult Including Geriatrics - II)

Time: 3 Hrs **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Essays **(2x15=30)**

1. Discuss the clinical manifestations, diagnostic measures and the non-surgical management of lung cancer with a note on care of patient on intercostal drainage
2. Discuss the indications, preoperative and post-operative management of a patient with Coronary Artery Bypass Graft (CABG)

Short Notes **(5x5=25)**

3. Central venous pressure monitoring
4. Glasgow coma scale
5. Types of disasters
6. Complications after renal transplantation
7. Nursing assessment of patient after skin grafting

Give reasons for the following **(5x2=10)**

8. Monitoring of blood pressure is important after cerebral aneurysm repair
9. Peripheral pulse should be monitored after angioplasty
10. The oxygen delivered to the patient is humidified
11. Thrombolytic therapy is contraindicated in recent abdominal surgery or stroke
12. Before lumbar puncture is performed, patient is positioned in a foetal side lying position

Differentiate between **(5x2=10)**

13. Bone marrow transplant and stem cell replacement
14. Hypoxia and hypoxemia
15. Sterilization and disinfection
16. Contusion and concussion
17. Arteriovenous graft and arteriovenous fistula

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Q.P. CODE: 311010 Reg. No: .....

Third Year B.Sc Nursing Degree Regular/Supplementary Examinations
May 2022

Medical Surgical Nursing (Adult Including Geriatrics - II)

(2016 Scheme)

Time: 3 Hrs **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

Long Essay (12)

1. Define respiratory failure. Write the pathophysiology for respiratory failure. Explain the nursing management of a patient with respiratory failure. (2+4+6)

Short Essays (2x7=14)

2. List down the risk factors and clinical manifestations of laryngeal cancer
3. Classification of seizures and medical management of a patient with epilepsy

Short Notes (5x5=25)

4. Cancer chemotherapy
5. Breast self-examination
6. Hospice care
7. Post-traumatic stress disorder
8. Heart transplantation

Differentiate between (3x4=12)

9. Atrial and ventricular dysrhythmias
10. Natural disaster and manmade disaster
11. Closed heart surgeries and open heart surgeries

Answer Briefly (3x4=12)

12. Complications of renal transplantation
13. Components of neurological examination
14. Principles of Hemodialysis

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2010 Scheme

Q.P. CODE: 301010 **Reg. No: .....**

Third Year B.Sc Nursing Degree Supplementary Examinations May 2022

Medical Surgical Nursing (Adult Including Geriatrics - II)

Time: 3 Hrs **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly - Do not leave any blank pages between answers*
- *Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together - Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Essays **(2x15=30)**

1. Discuss the clinical manifestations, diagnostic measures and the non-surgical management of lung cancer with a note on care of patient on intercostal drainage
2. Discuss the indications, preoperative and post-operative management of a patient with Coronary Artery Bypass Graft (CABG)

Short Notes **(5x5=25)**

3. Central venous pressure monitoring
4. Glasgow coma scale
5. Types of disasters
6. Complications after renal transplantation
7. Nursing assessment of patient after skin grafting

Give reasons for the following **(5x2=10)**

8. Monitoring of blood pressure is important after cerebral aneurysm repair
9. Peripheral pulse should be monitored after angioplasty
10. The oxygen delivered to the patient is humidified
11. Thrombolytic therapy is contraindicated in recent abdominal surgery or stroke
12. Before lumbar puncture is performed, patient is positioned in a foetal side lying position

Differentiate between **(5x2=10)**

13. Bone marrow transplant and stem cell replacement
14. Hypoxia and hypoxemia
15. Sterilization and disinfection
16. Contusion and concussion
17. Arteriovenous graft and arteriovenous fistula

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3rd year BSc Nursing 2nd Sessional Examination November 2022

Medical surgical nursing with (adult including geriatrics II)

Time:3 hour **mark: 75**

- Answer all questions
- Draw diagram where ever necessary

Long essay (2 + 3 + 7=12)

1. Define CABG. Enlist the complications of CABG. Explain the post op management for first 48 hours.

Short essay (2×7=14)

2. Describe the pathophysiology of traumatic brain injury..
3. Management of patient with ARF

Short notes (5× 5=25)

4. Thrombolytic therapy
5. Preparation and management of patient for hemodialysis.
6. Renal transplantation.
7. Classification of seizure
8. Cardiac rehabilitation

Differentiate between (3× 4=12)

9. Concussion and Contusion
10. Defibrillation and Cardio version
11. Orthotopic and heterotopic heart transplantation

List down (3× 4=12)

12. Types of pacemaker
13. AV fistula
14. Types of cerebral aneurysm

(2016 Scheme)

Time: 3 Hrs | Max. Marks: 75

- *Answer all questions to the point neatly and legibly - Do not leave any blank pages between answers - Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together - Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

Long Essay (12)

1. Mr. X brought to emergency in a collapsed state with no pulse. Write in detail about BLS and ACLS algorithm (5+7)

Short Essays (2x7=14)

2. Infection control protocols used in CCU
3. Write the clinical manifestations of breast cancer. Briefly explain the surgical and nursing management of a patient with breast cancer

Short Notes (5x5=25)

4. Legal aspects of disaster nursing
5. List down the common health problems in elderly
6. Complications of mechanical ventilation
7. Types of conduits used for CABG
8. Brain tumors

Differentiate between (3x4=12)

9. Stem cell therapy and Gene therapy
10. Pacemaker and IABP
11. Aides and Prosthesis in elderly

Answer Briefly (3x4=12)

12. Oncological emergencies
13. Reconstructive surgery for burns patient
14. Flow sheets used in critical care unit

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DATE:-17.02.2023

3rd year Bsc nursing 3rd sessional examination February 2023

Medical surgical nursing with (adult including geriatrics II)

Time: 3 hour

mark: 75

- Answer all questions
- Draw diagram where ever necessary

Long essay (3 + 3 + 6=12)

1. Define cancer of larynx. Enumerate etiology, clinical manifestations of cancer of larynx. Explain the nurses role in post op management of patient after larygectomy with radical neck dissection.

Short essay (2×7=14)

2. Theories of aging 3. Treatment modalities of Cancer

Short notes (5× 5=25)

4. Types of abuse among elderly

5. Oncologic emergencies

6. Stress and coping in elderly. Explain nurses role in care of elderly

7. Infection prevention in reconstructive surgery

8. Chemotherapy

Differentiate between (3× 4=12)

9. Graft and flap

10. Homograft and xenograft

11. Brachytherapy and teletherapy

Answer briefly (3× 4=12)

12. Warning signs of cancer

13. Palliative care

14. Cosmetic surgery

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DATE:-17.02.2023

3rd year Bsc nursing 3rd sessional examination February 2023

Medical surgical nursing with (adult including geriatrics II)

Time: 3 hour **mark: 75**

- Answer all questions
- Draw diagram where ever necessary

Long essay (3 + 3 + 6=12)

1. Define cancer of larynx. Enumerate etiology, clinical manifestations of cancer of larynx. Explain the nurses role in post op management of patient after larygectomy with radical neck dissection

Short essay (2×7=14)

2. Theories of aging 3. Treatment modalities of Cancer

Short notes (5× 5=25)

4. Types of abuse among elderly

5. Oncologic emergencies

6. Stress and coping in elderly. Explain nurses role in care of elderly

7. Infection prevention in reconstructive surgery

8. Chemotherapy

Differentiate between (3× 4=12)

9. Graft and flap

10. Homograft and xenograft

11. Brachytherapy and teletherapy

Answer briefly (3× 4=12)

12. Warning signs of cancer

13. Palliative care

14. Cosmetic surgery

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2010 Scheme

Q.P. CODE: 301010 **Reg. No: .....**

Third Year B.Sc Nursing Degree Supplementary Examinations
April (November), 2020

Medical Surgical Nursing (Adult Including Geriatrics - II)

Time: 3 Hrs **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers*
- *Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Essays **(2x15=30)**

1. Describe the aetiology, pathophysiology, medical and nursing management of patient with acute renal failure.
2. Classify head injury. Explain the complications of head injury. Explain the nursing management of patient with head injury

Short Notes **(5x5=25)**

3. Psychosocial aspects of aging
4. Bone marrow transplantation
5. Central venous pressure monitoring
6. Discharge advice after permanent pacemaker implantation
7. Role of nurse in disaster

Give reasons for the following **(5x2=10)**

8. Monitoring of blood pressure is important after repair of aneurysm
9. Humidifiers are used to add vapour to inspired gas.
10. Obesity increases the risk of coronary artery disease.
11. Never suction a critically ill patient for longer than 15 seconds.
12. Anticoagulants should be taken after mechanical valve replacement surgery.

Differentiate between **(5x2=10)**

13. Seizure and epilepsy
14. Split thickness graft and full thickness graft
15. Tele therapy and brachytherapy
16. Pain in angina pectoris and pain in myocardial infarction.
17. Continuous mandatory ventilation and synchronized intermittent mandatory ventilation

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Q.P. CODE: 301010 Reg. No: .....

Third Year B.Sc Nursing Degree Examinations, October 2013

Medical Surgical Nursing (Adult Including Geriatrics)- II

Time: 3 Hrs Max. Mark

- Answer all questions
- Draw diagram wherever necessary

Essays (2×1

1. Enumerate the indications for haemodialysis. Explain the methods of blood acc haemodialysis. Describe the complications of haemodialysis (3+6
2. Enumerate the causes of myocardial infarction. Describe the pathophysiological chang explain the role of the nurse in the immediate management of myocardial infarction(4+5

Short Notes (5x

3. Infection control in critical care units
4. Nursing care after skin grafting
5. Types of disasters
6. Subdural haematoma
7. Warning signs of cancer

Give reasons for the following (5x

8. The head end of bed is elevated to 30 degree for a patient with head injury
9. Anaemia is a common problem among patient with chronic renal failure
10. Blood glucose level is maintained in patient on prolonged corticosteroid therapy
11. Leukocyte count is checked before administration of chemotherapeutic drugs
12. Patients may complain headache after administration of nitro glycerine

Differentiate between (5x

13. Concussion and contusion
14. Propranolol and atenolol
15. Allograft and xenograft
16. Ventricular tachycardia and ventricular fibrillation
17. Chondroma and sarcoma

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Q.P. CODE: 301010 Reg. No: .....

Third Year B.Sc Nursing Degree Supplementary Examinations May 2017

Medical Surgical Nursing (Adult Including Geriatrics - II)

Time: 3 Hrs Max. Marks: 75

- Answer all questions
- Draw diagram wherever necessary

Essays (2x15=30)

1. Discuss the predisposing conditions, pathophysiology and the medical management of a patient with acute respiratory distress syndrome (ARDS). Explain the nursing management of a patient on mechanical ventilator.
2. List the etiological factors of cancer and classify chemotherapeutic drugs. Explain nursing management of patient getting chemotherapy

Short Notes (5x5=25)

3. Principles of critical care nursing
4. Complications of haemodialysis
5. Radiation therapy
6. Cardiac rehabilitation
7. Autonomic dysreflexia

Give reasons for the following (5x2=10)

8. A semi upright position is suitable for a dyspnoeic patient.
9. Mark peripheral pulses distal to the cannulation site in case of cardiac catheterisation.
10. People who smoke have two to four times the risk of sudden cardiac death.
11. Perform passive exercises and flexion of legs every two hours after open heart surgery.
12. Continuous controlled hyperventilation is the mainstay in the treatment of increased intracranial pressure

Differentiate between (5x2=10)

13. Temporary and permanent pacing
14. Grand mal and petit mal epilepsy
15. External arterio-venous shunt and internal arterio-venous fistula
16. Aesthetic (cosmetic) surgery and reconstructive surgery.
17. Active exercises and passive exercises

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Q.P. CODE: 311010 Reg. No: .....

Third Year B.Sc Nursing Degree Regular/Supplementary Examinations
July 2021

Medical Surgical Nursing (Adult Including Geriatrics - II)

(2016 Scheme)

Time: 3 Hrs Max. Marks: 75

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

Long Essay (12)

1. Define Coronary Artery Bypass Graft (CABG) surgery. Enlist the complications of CABG. Explain the post-operative nursing management for the first 48 hours. (2+3+7)

Short Essays (2x7=14)

2. Explain the emergency management of a patient in cardiac arrest with ventricular fibrillation.
3. Describe the pathophysiology of increased intracranial pressure.

Short Notes (5x5=25)

4. Colorectal cancer
5. Infection control protocol in ICU
6. Man made disasters
7. Psychosocial aspects of ageing
8. Acute respiratory distress syndrome.

Differentiate between (3x4=12)

9. Pleurisy and Pleural effusion
10. Homan's sign and Hoffman's sign
11. Decortication and Decerebration

Answer Briefly (3x4=12)

12. Warning signs of cancer
13. Graft rejection in kidney transplantation
14. Pain management in palliative care

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Q.P. CODE: 301010 Reg. No: .....

Third Year B.Sc Nursing Degree Supplementary Examinations, – May 2016

Medical Surgical Nursing (Adult Including Geriatrics - II)

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays (2×15=30)

1. Classify seizures. Discuss the etiology, diagnostic measures, medical, surgical and nursing management of a patient with chronic idiopathic epilepsy.
2. Explain the pathophysiology, clinical manifestations and nursing management of patient with left ventricular failure.

Short Notes (5x5=25)

3. Triage
4. Complications after renal transplantation
5. Infection control in critical care unit
6. Assessment of patient on ventilator
7. Palliative care

Give reasons for the following (5x2=10)

8. The body responds to hypoxemia by increasing the rate and depth of respiration.
9. WBC count is monitored in patients getting chemotherapy
10. Do not try to lift the person during a seizure.
11. Narcotics are contraindicated in people with high cervical injuries.
12. Before aesthetic plastic surgery is performed, assessment of the person's reasons for wanting the surgery is important

Differentiate between (5x2=10)

13. Tele therapy and brachytherapy
14. Reduction mammoplasty and augmentation mammoplasty
15. Defibrillation and cardioversion
16. Xenografts and homografts
17. Decerebrate rigidity and decorticate rigidity

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Q.P. CODE: 301010 Reg. No: .....

Third Year B.Sc Nursing Degree Examinations October 2017

Medical Surgical Nursing (Adult Including Geriatrics - II)

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays **(2x15=30)**

1. Mr. Basheer, 28 years is admitted with history of fall from height and diagnosed as having cervical spine injury. Explain the pathophysiology and clinical manifestations in spinal injury. Describe the complications and its management. (3+4+8)
2. Explain the aetiology of acute myocardial infarction (AMI). Describe the confirmatory diagnostic tests of MI. Explain the management of patient with acute myocardial infarction. (4+4+7)

Short Notes **(5x5=25)**

3. Assessment of patient with head injury
4. Characteristics of malignant tumour.
5. Complications of renal transplantation.
6. Principles of critical care nursing.
7. Pulmonary oedema.

Give reasons for the following **(5x2=10)**

8. Mannitol is administered to patients with head injury.
9. Fruits and fruit juices are restricted in patients with chronic renal failure.
10. B.P monitoring is important in patients on nitro glycerine
11. Anaemia is common in patients receiving chemotherapy
12. P.T., INR values to be monitored in patients on anticoagulant.

Differentiate between **(5x2=10)**

13. Preload and after load
14. Tele therapy and brachytherapy
15. Anterior cord syndrome and central cord syndrome
16. Auto graft and allograft
17. Cardioversion and defibrillation

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Q.P. CODE: 301010 Reg. No: .....

Third Year B.Sc Nursing Degree Examinations, October 2014

Medical Surgical Nursing (Adult Including Geriatrics - II)

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays **(2x15=30)**

1. Sreenivas, a 65 years elderly male is admitted to the CCU with bradycardia and an attack of syncope. He is posted for a permanent pacemaker implantation. Answer the following:
   - Differentiate between fixed rate pacing and demand pacing
   - Describe the discharge instructions for a patient with permanent pacemaker implantation
   - Enumerate the complications of permanent pacemaker implantation (4+7+4=15)
2. Describe the early signs of cancer and describe the modalities of cancer treatment. (5+10=15)

Short Notes **(5x5=25)**

3. Principles of critical care nursing
4. Ethical principles in nursing research
5. Concepts of triage and role of triage nurse
6. Increased intra cranial pressure
7. Cardiac rehabilitation

Give reasons for the following **(5x2=10)**

8. Patients are placed on immuno suppressants after organ transplantation.
9. Blood glucose levels to be monitored for patients on steroid therapy
10. Adequate dental hygiene is essential for clients on phenytoin(Dilantin)
11. Fruits and fruit juices are restricted in patients with renal failure
12. Mannitol in administered in patients after intra cranial surgery

Differentiate between **(5x2=10)**

13. Brachytherapy and teletherapy
14. Benign and malignant tumours
15. Defibrillation and cardio version
16. Curlings ulcer and cushings ulcer
17. Autograft and allograft

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Q.P. CODE: 301010 Reg. No: .....

Third Year B.Sc Nursing Degree Supplementary Examinations, June 2015

Medical Surgical Nursing (Adult Including Geriatrics - II)

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays **(2×15=30)**

1. Differentiate between epidural haematoma and subdural haematoma. Explain the clinical manifestations of increased intra cranial pressure. Describe the measures to prevent increased intra cranial pressure in a patient after intra cranial surgery (4+3+8=15)
2. Enumerate the causes of adult respiratory distress syndrome (ARDS). Describe the pathophysiological changes. Explain the nursing management of patient with ARDS (4+4+7=15)

Short Notes **(5x5=25)**

3. Types of abuse among elderly
4. Principles of disaster nursing
5. Bone marrow transplantation
6. Complications of external radiation therapy
7. Modes of ventilator

Give reasons for the following **(5x2=10)**

8. Potassium chloride syrup is diluted before administration
9. Warfarin is administered in patients after cardiac valve replacement
10. Patients with renal failure are advised to take high biological value proteins
11. Frequent evaluation of air entry in both lungs are important in patients on mechanical ventilator
12. Immuno suppressants are administered in patients after renal transplantation

Differentiate between **(5x2=10)**

13. Isografts and xenograft
14. Peripheral and central cyanosis
15. First degree heart block and second degree heart block
16. Epilepsy and seizure
17. Haemodialysis and peritoneal dialysis

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Q.P. CODE: 301010 Reg. No: .....

Third Year B.Sc Nursing Degree Examinations October 2016

Medical Surgical Nursing (Adult Including Geriatrics - II)

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays (2x15=30)

1. Describe the different modes of mechanical ventilation. Explain the nurses responsibility in relation to maintaining a Patent airway and promoting adequate cardiac output in a patient on mechanical ventilation (5+5+5=15)
2. Enumerate the causes of chronic renal failure. Describe the stages of chronic renal failure. Prepare a health education plan on management of nutrition in a patient with chronic renal failure (4+6+5=15)

Short Notes (5x5=25)

3. Brachytherapy
4. Psychosocial problems of elderly
5. Disaster preparedness
6. Interstitial lung disease
7. Cardiomyopathy

Give reasons for the following (5x2=10)

8. Head end of the bed is elevated to thirty degree for a patient after craniotomy
9. Aspirin is given prior to administration of thrombolytic therapy
10. INR value is monitored in patients after valve replacement
11. Oral hygiene is important in patients receiving radiation therapy for head and neck tumours
12. Monitoring central venous pressure is important after cardiac surgery

Differentiate between (5x2=10)

13. Cardio version and defibrillation
14. Diffusion and ultra filtration
15. Benign tumour and malignant tumour
16. Allograft and heterograft
17. Angioplasty and angiography

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Q.P. CODE: 301010 Reg. No: .....

Third Year B.Sc Nursing Degree Supplementary Examinations April 2019

Medical Surgical Nursing (Adult Including Geriatrics - II)

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays **(2x15=30)**

1. Discuss the radiation delivery methods, radiation side effects and the nurse's role in managing the side effects
2. Discuss the pathophysiology, diagnostic measures, medical and nursing management of a patient with acute respiratory distress syndrome

Short Notes **(5x5=25)**

3. Principles of critical care nursing
4. Disaster preparedness
5. Stress and coping in elderly
6. Peritoneal dialysis
7. Thrombolytic therapy

Give reasons for the following **(5x2=10)**

8. One of the side effects of chemotherapy is anemia
9. Turn the patient on the side during an episode of seizure
10. In an intercostal drainage system, the water seal chamber should always contain at least 2cm of water
11. Patients on pacemaker should avoid sources of strong electromagnetic fields such as large generators
12. Lumbar puncture is not done for patients with symptoms indicating severely increased intracranial pressure

Differentiate between **(5x2=10)**

13. Basic life support and advanced cardiac life support
14. Graft and flap
15. Electrocardiogram and echocardiogram
16. Pain in angina pectoris and pain in myocardial infarction
17. Central cord syndrome and anterior cord syndrome

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Q.P. CODE: 301010 Reg. No: .....

Third Year B.Sc Nursing Degree Supplementary Examinations April 2019

Medical Surgical Nursing (Adult Including Geriatrics - II)

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays **(2x15=30)**

1. Discuss the radiation delivery methods, radiation side effects and the nurse's role in managing the side effects
2. Discuss the pathophysiology, diagnostic measures, medical and nursing management of a patient with acute respiratory distress syndrome

Short Notes **(5x5=25)**

3. Principles of critical care nursing
4. Disaster preparedness
5. Stress and coping in elderly
6. Peritoneal dialysis
7. Thrombolytic therapy

Give reasons for the following **(5x2=10)**

8. One of the side effects of chemotherapy is anemia
9. Turn the patient on the side during an episode of seizure
10. In an intercostal drainage system, the water seal chamber should always contain at least 2cm of water
11. Patients on pacemaker should avoid sources of strong electromagnetic fields such as large generators
12. Lumbar puncture is not done for patients with symptoms indicating severely increased intracranial pressure

Differentiate between **(5x2=10)**

13. Basic life support and advanced cardiac life support
14. Graft and flap
15. Electrocardiogram and echocardiogram
16. Pain in angina pectoris and pain in myocardial infarction
17. Central cord syndrome and anterior cord syndrome

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2010 Scheme

Q.P. CODE: 301010 Reg. No: .....

Third Year B.Sc Nursing Degree Supplementary Examinations
April (November), 2020

Medical Surgical Nursing (Adult Including Geriatrics - II)

Time: 3 Hrs **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Essays **(2x15=30)**

1. Describe the aetiology, pathophysiology, medical and nursing management of patient with acute renal failure.
2. Classify head injury. Explain the complications of head injury. Explain the nursing management of patient with head injury

Short Notes **(5x5=25)**

3. Psychosocial aspects of aging
4. Bone marrow transplantation
5. Central venous pressure monitoring
6. Discharge advice after permanent pacemaker implantation
7. Role of nurse in disaster

Give reasons for the following **(5x2=10)**

8. Monitoring of blood pressure is important after repair of aneurysm
9. Humidifiers are used to add vapour to inspired gas.
10. Obesity increases the risk of coronary artery disease.
11. Never suction a critically ill patient for longer than 15 seconds.
12. Anticoagulants should be taken after mechanical valve replacement surgery.

Differentiate between **(5x2=10)**

13. Seizure and epilepsy
14. Split thickness graft and full thickness graft
15. Tele therapy and brachytherapy
16. Pain in angina pectoris and pain in myocardial infarction
17. Continuous mandatory ventilation and synchronized intermittent mandatory ventilation

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Q.P. CODE: 311010 Reg. No: .....

Third Year B.Sc Nursing Degree Regular/Supplementary Examinations
May 2022

Medical Surgical Nursing (Adult Including Geriatrics - II)

(2016 Scheme)

Time: 3 Hrs **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

Long Essay (12)

1. Define respiratory failure. Write the pathophysiology for respiratory failure. Explain the nursing management of a patient with respiratory failure. (2+4+6)

Short Essays (2x7=14)

2. List down the risk factors and clinical manifestations of laryngeal cancer
3. Classification of seizures and medical management of a patient with epilepsy

Short Notes (5x5=25)

4. Cancer chemotherapy
5. Breast self-examination
6. Hospice care
7. Post-traumatic stress disorder
8. Heart transplantation

Differentiate between (3x4=12)

9. Atrial and ventricular dysrrhythmias.
10. Natural disaster and manmade disaster
11. Closed heart surgeries and open heart surgeries

Answer Briefly (3x4=12)

12. Complications of renal transplantation
13. Components of neurological examination
14. Principles of Hemodialysis

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Q.P. CODE: 301010 Reg. No: .....

Third Year B.Sc Nursing Degree Supplementary Examinations April 2019

Medical Surgical Nursing (Adult Including Geriatrics - II)

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays **(2x15=30)**

1. Discuss the radiation delivery methods, radiation side effects and the nurse's role in managing the side effects
2. Discuss the pathophysiology, diagnostic measures, medical and nursing management of a patient with acute respiratory distress syndrome

Short Notes **(5x5=25)**

3. Principles of critical care nursing
4. Disaster preparedness
5. Stress and coping in elderly
6. Peritoneal dialysis
7. Thrombolytic therapy

Give reasons for the following **(5x2=10)**

8. One of the side effects of chemotherapy is anemia
9. Turn the patient on the side during an episode of seizure
10. In an intercostal drainage system, the water seal chamber should always contain at least 2cm of water
11. Patients on pacemaker should avoid sources of strong electromagnetic fields such as large generators
12. Lumbar puncture is not done for patients with symptoms indicating severely increased intracranial pressure

Differentiate between **(5x2=10)**

13. Basic life support and advanced cardiac life support
14. Graft and flap
15. Electrocardiogram and echocardiogram
16. Pain in angina pectoris and pain in myocardial infarction
17. Central cord syndrome and anterior cord syndrome

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Q.P. CODE: 301010 Reg. No: .....

Third Year B.Sc Nursing Degree Examinations September 2018

Medical Surgical Nursing (Adult Including Geriatrics - II)

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays **(2x15=30)**

1. Explain the assessment of patient with head injury. Prepare a nursing care plan for the management of patient with head injury for the first 48 hours. (7+8)
2. Enumerate the indications for haemodialysis. Explain the vascular access used for haemodialysis. Describe the common complications and its management in a patient undergoing haemodialysis. (3+3+4+5)

Short Notes **(5x5=25)**

3. Complications of chemotherapy
4. Concept of triage and nurse's role
5. Ventilatory modes
6. Thrombolytic therapy
7. Psychosocial problems of elderly

Give reasons for the following **(5x2=10)**

8. Peripheral pulses distal to cannulation site is checked after cardiac catheterisation.
9. Warfarin is administered to patients after cardiac valve replacement
10. WBC count is monitored in patients on chemotherapy
11. Semi fowler's position is preferred by patients having dyspnoea
12. Pulse rate is to be checked before administering digoxin

Differentiate between **(5x2=10)**

13. Hodgkin's lymphoma and non Hodgkin's lymphoma
14. Respiratory acidosis and metabolic acidosis
15. Anterior cord syndrome and Brown Sequard syndrome
16. Stable angina and unstable angina
17. Hyperplasia and metaplasia

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Q.P. CODE: 311010 Reg. No: .....

Third Year B.Sc Nursing Degree Regular/Supplementary Examinations
October 2019

Medical Surgical Nursing (Adult Including Geriatrics - II)

(2016 Scheme)

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Long Essay (12)

1. Define interventional cardiology. List down the indications for Percutaneous Coronary Intervention (PCI). Explain the nursing management of patients after coronary angioplasty. (2+3+7)

Short Essays (2x7=14)

2. Explain the emergency management of patients in cardiac arrest.
3. Describe the pathophysiology of traumatic brain injury

(5x5=25)

Short Notes

4. Cancer of prostate
5. Crisis intervention
6. Disaster management in biochemical wars
7. Theories of aging
8. Complications of mechanical ventilation.

(3x4=12)

Differentiate between

9. Concussion and contusion
10. Defibrillation and cardioversion
11. Homograft and xenograft

(3x4=12)

Answer Briefly

12. Pap smear
13. Arterio venous fistula
14. Palliative care

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Reg. No.:

Fourth Semester BSc. Nursing Degree Regular/ Supplementary Examinations - 2021 Scheme

Adult Health Nursing –II

Time: 3 Hours **Max. Marks: 75**

Answer all questions • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space • Answer all parts of a single question together • Draw neat diagrams wherever necessary

QP Code: **Course Code: N-AHN-II-225**

Multiple Choice Questions **(12 x 1 = 12)**

Choose the most appropriate answer

1. Involuntary, rhythmical, oscillatory movement of eyes is called as
   a. Strabismus b. Ptosis c. Blepharitis d. Nystagmus
2. Peritonsillar abscess is also known as
   a. Retropharyngeal abscess b. Tonsillar abscess c. Quinsy d. Acoustic neuroma
3. The normal range of urine specific gravity is
   a. 1.003 to 1.030 b. 1.001 to 1.020 c. 1.004 to 1.0 d. 1.005 to 1.050
4. Anemia associated with chronic renal failure is treated with
   a. Human erythropoietin (Epogen) b. Aminoglycosides c. Immunoglobulin d. Iron supplements
5. Elevated levels of urea and other nitrogenous wastes in blood is termed as
   a. Azotemia b. Albuminemia c. Proteinuria d. Anuria
6. Inflammation of the testes is called as
   a. Epididymitis b. Orchitis c. Phimosis d. Cryptorchidism
7. Enlargement of breasts in men is termed as
   a. Mastalgia b. Gynecomastia c. Mastitis d. Paget's' disease
8. Unilateral inflammation of the seventh cranial nerve, results in weakness or paralysis of the facial muscles on the affected side is
   a. Parkinson's disease b. Myasthenia gravis. C. Bell's palsy d. Trigeminal neuralgia
9. A surgical procedure that removes fat from specific areas of the body such as abdomen, hips, thighs, buttocks, arms or neck
   a. Liposuction b. Bariatric surgery c. Rhinoplasty d. Body contouring
10. A type of cancer treatment that uses a person's own immune system to fight cancer cells
    a. Gene therapy b. Immunotherapy c. Chemotherapy d. Radiation therapy
11. Example for a negative pressure ventilator
    a. BIPAP b. SIMV c. Iron lung d. PEEP
12. An occupational lung disease caused by the exposure to cotton dust
    a. Byssinosis b. Bagassosis c. Siliconsis d. Anthracosis

(2 x 15 = 30)

Essay

13. Mr. X had hoarseness of voice and is diagnosed as Ca larynx

a. List etiology and risk factors of Ca larynx

b. Enumerate clinical manifestations of Ca larynx

c. Discuss on types of surgical management

d. Nurses role in post-operative management of the patient (3+3+4+5 =15)

14. Explain spinal cord injury. Describe complications and its management (5+5+5 = 15)

(5 x 5 = 25)

Short Notes

15. Retinal detachment

16. Epistaxis

17. National AIDS control programme

18. Fluid resuscitation in burns

19. Legal and ethical issues in care of elderly

(2 x 2 = 4)

Give Reasons

20. WBC count is monitored in patients on chemotherapy

21. Dim lights are advised for patients with meningitis

(2 x 2 = 4)

Differentiate Between

22. Hyperplasia - Metaplasia

23. Reconstructive Surgery - Cosmetic Surgery

Fourth Semester BSc. Nursing Degree First sessional Examinations –2021 Scheme

AdultHealthNursing–II

Time:3 HoursMax.Marks:75

Answer all questions • Do not leave any blank pages between answers • Indicate the questionnumber correctly for the answer in the margin space • Answer all parts of a single questiontogether•Drawneat diagramswherever necessary.

MultipleChoiceQuestions **(12 x1 = 12)**

(Choosethemost appropriateanswerfrom optionsbelow)

1. Abnormal and excessive discharge of nerve impulses in the brain is called

   a) Paralysis b) Epilepsy c) Stroke d) Nerve disorder

2. Which of the following is a genetic disease that causes neurons in the brain to waste away and die?

   a) Multiple sclerosis b) Alzheimer's disease c) Huntington's disease d) Myasthenia gravis

3. Difficulty speaking and understanding speech is termed as

   a) Ataxia b) aphasia c) apnea d) apraxia

4. Which of the following nursing measures to be avoided in a patient with increased ICP?

   a) suctioning for a prolonged time b) oral feeding c) Fowler's position d) catheterization

5. ABG shows pH 7.28, pco2 50, Hco3-24 what is the possible diagnosis?

   a) Respiratory alkalosis b) respiratory acidosis c) metabolic acidosis d) metabolic alkalosis

6. Unilateral inflammation of the seventh cranial nerve, results in weakness or paralysis of the facial muscles on the affected side is

   a. Parkinson's disease b. Myasthenia gravis. C. Bell's palsy d. Trigeminal neuralgia

7. A type of cancer treatment that uses a person's own immune system to fight cancer cells a. Gene therapy b. Immunotherapy c. Chemotherapy d. Radiation therapy

8. Example for a negative pressure ventilator

   a. BIPAP b. SIMV c. Iron lung d. PEEP

9. An occupational lung disease caused by the exposure to cotton dust

   a. Byssinosis b. Bagassosis c. Silicosis d. Anthracosis

10. HIV is a _____

    a. Lentivirus b. Capripoxvirus c. Gallivirus d. Papillomavirus

11. Which virus is associated with acquired immune deficiency syndrome (AIDS) pandemic?

    a) HIV-2 b) HTLV-I c) HIV-1 d) HIV-3

12. In disaster management, mitigation measures involves

a. Governmental action and administration B. Community action and administration C. Military action and administration D. None of the above

Essay(2x 15 = 30)

13. Describe the different modes of mechanical ventilation. Explain the nurses responsibility in relation to maintaining a Patent airway and promoting adequate cardiac output in a patient on mechanical
(5+5+5=15)

14. Mr. Basheer, 28 years is admitted with history of fall from height and diagnosed as having cervical spine injury. Explain the pathophysiology and clinical manifestations in spinal injury. Describe the complications and its management.
(3+4+8= 15)

ShortNotes(5 x 5= 25)

15. Types of disasters

16. Assessment of patient with head injury

17. Principles of critical care nursing.

18. AIDS

19. Parkinsons disease

GiveReasons(2 x 2= 4)

20. The head end of bed is elevated to 30 degree for a patient with head injury

21. Leukocyte count is checked before administration of chemotherapeutic drugs

DifferentiateBetween **(2 x 2= 4)**

22. Epidural haematoma and subdural haematoma

23. Brachytherapy and teletherapy

.....

Key points

1. B. epilepsy
2. C. Huntington's disease
3. B. aphasia
4. A. suctioning for a prolonged time
5. B. Respiratory acidosis
6. C. bell's palsy
7. B. immunotherapy
8. C. iron lung
9. A. byssinosis

10. A. lentivirus

11. C. CA cervix

12. B, community action and administration

13. Mechanical ventilation, or assisted ventilation, is the medical term for artificial ventilation where mechanical means are used to assist or replace spontaneous breathing.This may involve a machine called a ventilator, or the breathing may be assisted manually by a suitably qualified professional, such as an anesthesiologist, respiratory therapist, or paramedic, by compressing a bag valve mask device.

- Modes of volume ventilation

1. Controlled Mandatory Ventilation

- With controlled mandatory ventilation (CMV), breaths are delivered at a set rate per minute and a set VT, which are independent of the patient's ventilatory efforts.
- It is used when the patient has no drive to breathe or is unable to breathe spontaneously

2. Assist control ventilation

- The ventilator delivers a preset VT at a preset frequency, and when the patient initiates a spontaneous breath, the preset VT is delivered.
- The ventilator senses a decrease in intrathoracic pressure and then delivers the preset VT. The patient can breathe faster than the preset rate but not slower.
- This mode has the advantage of allowing the patient some control over ventilation while providing some assistance.

3. SIMV

The ventilator delivers a preset VT at a preset frequency in synchrony with the patient's spontaneous breathing.
Between ventilator delivered breaths, the patient is able to breathe spontaneously through the ventilator circuit.
Thus the patient receives the preset FiO2 concentration during the spontaneous breaths but self regulates the rate and volume of those breaths. This mode of ventilation differs from ACV, in which all breaths are of the same preset volume.

4. Pressure support ventilation

With PSV, positive pressure is applied to the airway only during inspiration and is used in conjunction with the patient's spontaneous respirations.
The patient must be able to initiate a breath in this modality. A preset level of positive airway pressure is selected so that the gas flow rate is greater than the patient's inspiratory flow rate.
As the patient initiates a breath, the machine senses the spontaneous effort and supplies a rapid flow of gas at the initiation of the breath and variable flow throughout the breath.

5. Pressure controlled inverse ratio ventilation

- With IRV, a prolonged positive pressure is applied, increasing inspiratory time. IRV progressively expands collapsed alveoli.

QP Code: 211010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations
September 2023
Medical Nursing including pathology

(2016 Scheme)

Time: 3 Hours **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Long Essay (12)

1. Define bronchial asthma. Discuss the clinical manifestations, medical management and nursing care (2+3+3+4)

Short Essays (2x7=14)

2. Iron Deficiency Anemia
3. Management of cerebro vascular accident

Short Notes (5x5=25)

4. Disorders of oral cavity
5. Diabetic Keto Acidosis
6. Systemic Lupus Erythematosus
7. Hemodialysis
8. Organo phosphorous posoning

Answer briefly (4x4=16)

9. ABG analysis
10. Treatment for psoriasis
11. Management of typhoid fever
12. Prevention of Malaria

Give reasons for the following (2x4=8)

13. Premedication given prior to blood transfusion
14. Serum potassium values are monitored in patients on lasix therapy

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2010 Scheme

Q.P. CODE: 201010 **Reg. No: .....**

Second Year B.Sc Nursing Degree Supplementary Examinations
September 2023

Medical Nursing Including Pathology

Time: 3 Hrs **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Essays **(2x15=30)**

1. Mr. Raman 45 years is recently diagnosed with rheumatic heart disease. Define Rheumatic Heart Disease (RHD). Discuss the pathophysiology and signs and symptoms of rheumatic heart disease. Explain the collaborative management of rheumatic heart disease. (2+7+6)
2. Mr. X, 60-year-old male is admitted with oedema of the body, breathlessness and vomiting and he is diagnosed with chronic renal failure. Define chronic renal failure. Discuss the pathophysiology and clinical manifestation of chronic renal failure. Explain the management of chronic renal failure, by applying nursing process based on priorities. (2+7+6)

Short Notes **(6x5=30)**

3. Hypovolemic shock.
4. Complications of diabetes mellitus.
5. Organophosphorous poisoning.
6. Stages of illness.
7. Rehabilitation of patient with AIDS.
8. Medical management of pulmonary tuberculosis.

Nurse's role for the following **(3x3=9)**

9. Lumbar puncture.
10. Colostomy care.
11. Prevention of hepatitis B.

Give reasons for the following **(3x2=6)**

12. Safety checks in blood transfusion.
13. Osmotic diuretic is given for cerebral edema.
14. Sputum specimen is collected in the early morning.

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QP Code: 211010 Reg. No: .....

Second Year B.Sc Nursing Degree Regular/Supplementary Examinations April 2023

Medical Nursing including pathology

(2016 Scheme)

Time: 3 Hours **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Long Essay

1. Discuss the etiology, mode of transmission, diagnostic studies and anagement of Hepatitis A and Hepatitis B with a note on prevention". (2+2+2+3+3=12)

Short Essays (2x7=14)

2. Clinical features and the management of bronchiectasis
3. Inflammatory response

Short Notes (5x5=25)

4. Nephrotic syndrome
5. Medical management of myocardial infarction
6. Myasthenia gravis
7. Eczema
8. Polycythaemia

Answer briefly (4x4=16)

9. Syncope
10. Clinical features of diabetes mellitus
11. Central venous pressure
12. Leptospirosis

Give reasons for the following (2x4=8)

13. Anaemia occurs in renal failure
14. A patient with dyspnea is advised to assume Fowler's position

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2010 Scheme

Q.P. CODE: 201010 **Reg. No: .....**

Second Year B.Sc Nursing Degree Supplementary Examinations
April 2023

Medical Nursing Including Pathology

Time: 3 Hrs **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers*
- *Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Essays **(2x15=30)**

1. Mrs. A, 40 years old lady is admitted with Rheumatic Heart Disease (RHD). Discuss the pathophysiology and clinical features of RHD. Discuss the assessment of Mrs. A. Explain nursing care based on nursing process approach (6+4+5)
2. Explain the types and etiology of meningitis. Discuss the signs and symptoms of meningitis. Enlist the investigations and management of a patient with bacterial meningitis (4+5+6)

Short Notes **(6x5=30)**

3. Health teaching in pulmonary tuberculosis
4. Hypovolemia
5. Concept of comprehensive nursing care
6. Glucose Tolerance Test (GTT)
7. Management of Acute Renal Failure
8. Systemic Lupus Erythematosus

Nurse's role for the following **(3x3=9)**

9. Assisting for bone marrow aspiration
10. Liver biopsy
11. Counselling a patient with HIV

Give reasons for the following **(3x2=6)**

12. Tetanus patients are nursed in a single quiet room
13. Patients with neutropenia need special precautions
14. Atropine is given in organophosphorus poisoning

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2010 Scheme

Q.P. CODE: 201010 **Reg. No: .....**

Second Year B.Sc Nursing Degree Supplementary Examinations
October 2022

Medical Nursing Including Pathology

Time: 3 Hrs **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Essays **(2x15=30)**

1. Mrs X a 40 years old female is admitted to the hospital with shaking chills and high grade fever. She is diagnosed with dengue fever. Discuss the following:
   - Etio- pathophysiology of dengue fever
   - Clinical manifestations
   - Prevention
   - Nursing management of the patient (3+3+2+7)
2. Discuss the etiology, pathophysiology, clinical features and management of a patient with acute renal failure (2+3+2+8)

Short Notes **(6x5=30)**

3. Cardiopulmonary resuscitation
4. Metabolic acidosis
5. Mantoux test
6. Management of hypertension
7. Leptospirosis
8. Guillaine Barre syndrome

Nurse's role for the following **(3x3=9)**

9. Hypovolemia
10. Management of diarrhoea
11. Counselling HIV patient

Give reasons for the following **(3x2=6)**

12. Corticosteroids are administered for a patient with bronchial asthma
13. Blood transfusion is the treatment choice for a patient with sickle cell crisis
14. Cross matching is a must before a blood transfusion

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QP Code: 211010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations
October 2022
Medical Nursing including pathology

(2016 Scheme)

Time: 3 Hours **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Long Essay **(12)**

3. Mr. G, a 21 years old college student is admitted with a diagnosis of meningitis. Answer the following:
   - Define meningitis
   - List the differences between bacterial and viral meningitis
   - Mention the specific investigations to confirm the diagnosis
   - Elaborate on the nursing management of Mr. G (2+2+2+6)

Short Essays **(2x7=14)**

2. Elaborate on the causes, signs and symptoms and management of psoriasis (2+2+3)
3. Discuss the pathophysiology and management of pain (3+4)

Short Notes **(5x5=25)**

4. Rehabilitation of patients with AIDS
5. Endoscopic Retrograde Cholangio Pancreatography
6. Electrolyte imbalances in chronic renal failure
7. Medical management of heart failure
8. Glucose Tolerance Test

Answer briefly **(4x4=16)**

9. Wound healing
10. Mumps
11. Pleural effusion
12. First aid for snake bite

Give reasons for the following **(2x4=8)**

13. Sterile technique for urine collection for culture and sensitivity
14. Sensitivity testing before contrast CT scan

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2010 Scheme

Q.P. CODE: 201010 **Reg. No:** .....

Second Year B.Sc Nursing Degree Supplementary Examinations May 2022

Medical Nursing Including Pathology

Time: 3 Hrs **Max. Marks: 75**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw diagrams wherever necessary***

Essays **(2x15=30)**

1. Define cirrhosis of liver. Explain the pathophysiology of cirrhosis of liver. Discuss the nursing care plan based on nursing process approach. (1+6+8)
2. Mr. X is admitted in an unconscious state with history of having consumed Baygon spray. Describe the clinical features of organophosphorus poisoning. Explain the management of Mr. X during the first 24 hrs. (7+8)

Short Notes **(6x5=30)**

3. Health education in hypertension
4. Blood transfusion
5. CSF (Cerebrospinal fluid) examination
6. Anaphylactic shock
7. Etiology and risk factors of acute renal failure
8. Glucose Tolerance Test (GTT)

Nurse's role for the following **(3x3=9)**

9. Collection of sample for blood culture
10. Preparation of patient for endoscopy
11. Patient receiving Anti Tubercular Treatment (ATT)

Give reasons for the following **(3x2=6)**

12. Pulse rate should be checked in patients receiving metoprolol
13. Patients are nursed supine without pillow after lumbar puncture
14. Barrier nursing is practiced for patients with neutropenia

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QP Code: 211010 Reg. No: .....

Second Year B.Sc Nursing Degree Regular/Supplementary Examinations May 2022

Medical Nursing including pathology

(2016 Scheme)

Time: 3 Hours **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Long Essay (12)

1. Mr. N a chronic smoker is admitted to the ward with a diagnosis of pulmonary tuberculosis. Discuss the following:
   - List the causative organism
   - Describe the clinical features
   - Mention the drugs used in the management of pulmonary tuberculosis and the nurses responsibilities
   - Describe the nursing management of Mr. N (1+2+4+5)

Short Essays (2x7=14)

2. List the Clinical Features and Management of Patient with Dehydration
3. Discuss normal electrocardiogram (ECG) and highlight the placement of chest leads in a 12 lead ECG

Short Notes (5x5=25)

4. Nutritional Assessment of Patients with Gastro Intestinal Disorders.
5. Nephrotic syndrome
6. Lumbar puncture
7. Complications of diabetes mellitus
8. Gout

Answer briefly (4x4=16)

9. Psoriasis
10. Dengue Fever
11. Management of hypersensitivity reactions
12. Prevention of HIV infection

Give reasons for the following (2x4=8)

13. Head end is elevated in patient with increased intracranial pressure
14. Bleeding is a common manifestation in patients with thrombocytopenia

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2010 Scheme

Q.P. CODE: 201010 **Reg. No:** .....

Second Year B.Sc Nursing Degree Supplementary Examinations February 2022

Medical Nursing Including Pathology

Time: 3 Hrs **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Essays **(2x15=30)**

1. Define hepatic encephalopathy. Discuss the assessment of a patient with hepatic encephalopathy. Explain medical and nursing management. (1+4+5+5)
2. Explain the etiology of renal failure. Discuss the signs and symptoms of renal failure. Elaborate on the modes of management for a patient with chronic kidney disease. (4+4+7)

Short Notes **(6x5=30)**

3. Health education in diabetes mellitus
4. Hypokalaemia
5. Bone marrow analysis
6. Cardiogenic shock
7. Management of snake bite
8. Treadmill test

Nurse's role for the following **(3x3=9)**

9. Preparation of a patient for electro encephalogram (EEG)
10. Assisting for lumbar puncture
11. Patient receiving anti-coagulant therapy

Give reasons for the following **(3x2=6)**

12. Blood urea is checked for patients undergoing coronary angiogram
13. Morphine is administered in patients admitted with acute myocardial infarction
14. Patient with intercostal drain is nursed in Fowler's /Semi Fowler's position

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QP Code: 211010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations
February 2022

Medical Nursing including pathology

(2016 Scheme)

Time: 3 Hours **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Long Essay (12)

1. Discuss the causes, clinical course and the management of acute renal failure

Short Essays (2x7=14)

2. Cardiac catheterization
3. Meningitis

Short Notes (5x5=25)

4. Psoriasis
5. Management of bronchial asthma
6. Complications of diabetes mellitus
7. Thalassemia
8. National Aids Control program

Answer briefly (4x4=16)

9. Non pharmacologic treatment for pain
10. Clinical features of hepatic coma
11. Types of angina pectoris
12. Atelectasis

Give reasons for the following (2x4=8)

13. The unconscious patient is positioned in a lateral "recovery position"
14. Never elevate the chest tube drainage system to the level of the patient's chest

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2010 Scheme

Q.P. CODE: 201010 **Reg. No:** .....

Second Year B.Sc Nursing Degree Regular/Supplementary Examinations August 2021

Medical Nursing Including Pathology

Time: 3 Hrs **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Essays **(2x15=30)**

1. Mr. S, a chronic alcoholic is admitted to the ICU with cirrhosis of liver. Define cirrhosis of liver. List the complications of cirrhosis of liver and discuss one in detail. Discuss the nursing management of Mr. S. (2+6+7)
2. Define acquired immunodeficiency syndrome (AIDS). Explain the clinical manifestations of a patient with AIDS. Discuss the treatment modalities and nursing management of a patient with AIDS. (2+4+9)

Short Notes **(6x5=30)**

3. CSF analysis
4. Complications of diabetes mellitus
5. Hypovolemic shock
6. Biomedical waste management
7. Psoriasis
8. Types of anaemia and its management

Nurse's role for the following **(3x3=9)**

9. Coronary angiogram
10. Rehabilitation of stroke patients
11. Renal biopsy

Give reasons for the following **(3x2=6)**

12. Low molecular weight heparin is prescribed for a patient with prolonged immobilization
13. Incentive spirometry is recommended for a patient with pneumonia
14. Monitoring patient's blood pressure is important when he is on nifedipine

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QP Code: 211010 Reg. No: .....

Second Year B.Sc Nursing Degree Regular/Supplementary Examinations August 2021

Medical Nursing including pathology

(2016 Scheme)

Time: 3 Hours **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Long Essay (12)

1. Mr. Y is admitted to the hospital with right sided hemiplegia. Discuss the following with regard to Mr. Y.
   - Define stroke
   - List the etiology and pathophysiological changes in stroke
   - Discuss the nursing management of a patient using the nursing process approach (1+4+7)

Short Essays (2x7=14)

2. Discuss the clinical features and pathophysiological changes in infective endocarditis
3. Elaborate the management of patients with chronic kidney disease

Short Notes (5x5=25)

4. Complications of liver cirrhosis
5. Medical management of bronchial asthma
6. Acne vulgaris
7. Leptospirosis
8. Organophosphorus poisoning

Answer briefly (4x4=16)

9. Graft versus host disease
10. Potassium imbalance
11. Nursing diagnosis
12. Graves' disease

Give reasons for the following (2x4=8)

13. Biomedical waste management is a very important component of health care system
14. Anasarca is common manifestation seen in patients with right heart failure

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2010 Scheme

Q.P. CODE: 201010 **Reg. No: .....**

Second Year B.Sc Nursing Degree Supplementary Examinations
April (November), 2020

Medical Nursing Including Pathology

Time: 3 Hrs **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Essays **(2x15=30)**

1. Discuss the following conditions in terms of etiology, pathophysiology, clinical features and management.
   - Malaria • Hepatitis A (7.5+7.5)
2. Mr P, 60 years old is a known case of diabetes mellitus on insulin. What are the signs and symptoms of diabetes mellitus. Discuss the different types of insulin. What are the complications you can expect in Mr. P and how will you prevent them. (5+5+5)

Short Notes **(6x5=30)**

3. Health education in bronchial asthma
4. Concept of disease causation
5. Snake bite
6. Pemphigus
7. Fluid and electrolyte imbalance.
8. Cardiogenic shock

Nurse's role for the following **(3x3=9)**

9. Care of a patient after lumbar puncture
10. Preparation of patient for colonoscopy
11. Care of patient after renal biopsy

Give reasons for the following **(3x2=6)**

12. Anti-Retroviral Therapy (ART) once started should never be stopped.
13. Salt restricted diet is given to cardiac patients
14. CPR should be started within the first 3 minutes of cardiac arrest

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QP Code: 211010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations
April (November), 2020

Medical Nursing including pathology

(2016 Scheme)

Time: 3 Hours **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Long Essay (12)

1. Explain the clinical manifestations, complications and management of myocardial infarction

Short Essays (2x7=14)

2. Diagnosis and management of dengue fever
3. Emergency management of snake bite

Short Notes (5x5=25)

4. Clinical features of cirrhosis of liver
5. Medical management of Parkinson disease
6. Lumbar Puncture.
7. Causes of acute renal failure
8. Hyperthyroidism

Answer briefly (4x4=16)

9. Pulse oximetry
10. Haemophilia
11. Pemphigus
12. Gout

Give reasons for the following (2x4=8)

13. Edematous extremities should be elevated
14. When abdominal paracentesis is done, the nurse must have the patient void immediately before the procedure.

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2010 Scheme

Q.P. CODE: 201010 **Reg. No: .....**

Second Year B.Sc Nursing Degree Supplementary Examinations October 2019

Medical Nursing Including Pathology

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays **(2x15=30)**

1. Mr L, a 65 years old man is admitted to the CCU with the diagnosis of left ventricular failure (LVF). State any two differences between left and right ventricular failure. Specify two drugs with their action and side effects commonly prescribed for patients with congestive cardiac failure. Plan nursing care for Mr. L based on three prioritized health problems. (4+4+7)
2. Define bronchial asthma. Explain the etiology and pathophysiology of bronchial asthma. Write a short note on incentive spirometry. Plan a discharge teaching plan for a patient with bronchial asthma. (2+4+5+4)

Short Notes **(6x5=30)**

3. Addison's disease
4. Management of chronic renal failure
5. Pulmonary Function Test (PFT)
6. Typhoid
7. Tetanus
8. Normal ECG (electrocardiogram)

Nurse's role for the following **(3x3=9)**

9. Intravenous pyelogram
10. Insulin therapy
11. Hyperkalaemia

Give reasons for the following **(3x2=6)**

12. A laxative and cleansing enema is prescribed a day before the barium enema
13. Constipation is to be avoided in a patient with an acute attack of myocardial infarction
14. C-shaped position should be maintained for a patient undergoing lumbar puncture.

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QP Code: 211010 Reg. No: .....

Second Year B.Sc Nursing Degree Regular/Supplementary Examinations October 2019

Medical Nursing including pathology

(2016 Scheme)

Time: 3 Hours **Max. Marks: 75**

- **Answer all questions**
- **Draw diagrams wherever necessary**

Long Essay (12)

1. Mr. M, 54 years old diagnosed as hepatic coma is admitted in ward. Answer the following: (3+3+6)
   - Enumerate pathophysiological changes in hepatic coma
   - Enlist the clinical features of hepatic coma
   - Write medical and nursing management of Mr. M with hepatic coma

Short Essays (2x7=14)

2. Classify leukaemia and explain the clinical features of leukaemia (4+3)
3. Discuss the cause, clinical features and management of patients with Addison's disease

Short Notes (5x5=25)

4. Metabolic acidosis
5. Medical management of a patient with bronchial asthma
6. Cardiac catheterisation
7. Meningitis
8. Acquired immunodeficiency syndrome

Answer briefly (4x4=16)

9. Pathophysiological changes in glomerulonephritis
10. Pemphigus
11. Rabies
12. Nursing management of a patient with snake bite

Give reasons for the following (2x4=8)

13. Hypocalcaemia occurs in chronic renal failure
14. Protein restricted diet is advised for patients with gout

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QP Code: 211010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations
April 2019

Medical Nursing including pathology

(2016 Scheme)

Time: 3 Hours **Max. Marks: 75**

- **Answer all questions**
- **Draw diagrams wherever necessary**

Long Essay (12)

1. Mr. T, a 52 years old company executive is brought to emergency department with acute onset of chest pain., breathlessness and sweating. Answer the following
   - Define myocardial infarction
   - List the differences between chest pain in angina pectoris and myocardial infarction
   - Describe the steps of cardiopulmonary resuscitation
   - Discuss the nursing management of Mr. T (2+2+4+4)

Short Essays (2x7=14)

2. Clinical manifestations of increased intracranial pressure
3. Discuss the haematological and neurological manifestations in snake bite

Short Notes (5x5=25)

4. Hypokalaemia
5. Pulse oximetry
6. Portal hypertension
7. Addison's disease
8. ELISA test

Answer briefly (4x4=16)

9. Causes of Acute Renal Failure
10. Prevention and control of typhoid fever
11. National AIDS Control Programme
12. Concepts of disease causation

Give reasons for the following (2x4=8)

13. Early morning sputum sample collection
14. Premedication before painful procedures

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Q.P. CODE: 201010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations
April 2019

Medical Nursing Including Pathology

(2010 Scheme)

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays **(2x15=30)**

1. Mrs. A, 35 years old lady is admitted with pneumonia. Classify the types of pneumonia with causes. Explain the pathophysiology of pneumonia. Discuss the management of Mrs. A including nursing management. (4+4+7)
2. Define cerebrovascular accident (CVA). Discuss the types, clinical features and medical management in CVA. Prepare a nursing care plan for a patient with CVA (2+6+7)

Short Notes **(6x5=30)**

3. clinical features of cirrhosis of liver.
4. Hepatitis B
5. Stages of illness
6. Fluid overload
7. Diabetic ketoacidosis
8. Psoriasis

Nurse's role for the following **(3x3=9)**

9. Blood transfusion
10. Preparation of a patient for coronary angiography
11. collection of 24 hour urine specimen"

Give reasons for the following **(3x2=6)**

12. Strict monitoring of prothrombin time is done in patients on anticoagulants
13. Erythropoietin is given in chronic renal failure
14. The site of snake bite should not be elevated above the heart level

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QP Code: 211010 Reg. No: .....

Second Year B.Sc. Nursing Degree Examinations October 2018

Medical Nursing including pathology

(2016 Scheme)

Time: 3 Hours Max. Marks: 75

- **Answer all questions**
- **Draw diagrams wherever necessary**

Long Essay (12)

1. Mrs. S a 35 years old house wife is admitted with irritable bowel syndrome. Answer the following:
   - Define irritable bowel syndrome
   - List the causes
   - Enumerate the relevant health education
   - Describe the medical and nursing management of Mrs. S (2+2+2+2+4)

Short Essays (2x7=14)

2. Classification of angina pectoris and medical management of angina (3+4)
3. Pathophysiological changes and clinical features in Parkinson's disease (3+4)

Short Notes (5x5=25)

4. Hyponatremia
5. Bronchoscopy
6. Hypothyroidism
7. Management of patients with AIDS
8. Cystourethrogram

Answer briefly (4x4=16)

9. Infection
10. Chicken pox
11. Isolation precautions
12. Allergies

Give reasons for the following (2x4=8)

13. Hair wash before electro encephalogram
14. Full bladder for ultra sound abdomen

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Q.P. CODE: 201010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations
October 2018

Medical Nursing Including Pathology

(2010 Scheme)

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays **(2x15=30)**

1. Compare myocardial infarction and angina pectoris with regard to the following:
   - Clinical manifestations • ECG changes • Management (3+2+10)
2. Mr. X, a 55 years old man admits to the medical unit with pedal oedema, ascites, jaundice and history of chronic alcoholism. Discuss the condition of Mr X with regard to the following:
   - Probable diagnosis of Mr X • Nurses role in liver biopsy
   - Portal hypertension and oesophageal varices (1+4+5+5)

Short Notes **(6x5=30)**

3. Bell's palsy
4. Aetiology, clinical features and management of hepatitis B
5. Acne vulgaris
6. Dengue fever
7. Glucose tolerance test
8. Pulmonary embolism

Nurse's role for the following **(3x3= 9)**

9. Hypersensitivity reactions
10. Blood transfusion
11. Unconscious patient

Give reasons for the following **(3x2=6)**

12. Sinsulin is not administered orally
13. Stool softeners used in patients with myocardial infarction
14. Placing a nitro-glycerine tablet sublingually in a patient with angina pectoris

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Q.P. CODE: 201010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations May 2018

Medical Nursing Including Pathology

Time: 3 Hrs Max. Marks: 75

- Answer all questions
- Draw diagram wherever necessary

Essays (2x15=30)

1. Mr. A of 50 years old is admitted with congestive cardiac failure (CCF). Discuss the pathophysiology and clinical features of CCF. Prepare a nursing care plan for Mr. A based on nursing process approach. 4+4+7=15
2. Define nephrotic syndrome. Discuss the clinical features. Explain the medical management. What health teaching will you give the patient. (2+5+5+3)

Short Notes (6x5=30)

3. Complications of diabetes mellitus
4. Clinical features of cerebrovascular accident
5. Management of pulmonary tuberculosis
6. Hypovolemic shock
7. Types and causes of hepatitis
8. Health teaching for iron deficiency anaemia

Nurse's role for the following (3x3=9)

9. During and after blood transfusion
10. Renal biopsy
11. A patient receiving anti-retroviral therapy (ART)

Give reasons for the following (3x2=6)

12. Pulse rate is checked before administering digoxin
13. Bleeding time and clotting time should be monitored in a patient admitted with snake bite.
14. Handwriting chart is monitored for a patient with hepatic failure

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Q.P. CODE: 201010 Reg. No: .....

Second Year B.Sc Nursing Degree Examinations October 2017

Medical Nursing Including Pathology

Time: 3 Hrs Max. Marks: 75

- Answer all questions
- Draw diagram wherever necessary

Essays (2x15=30)

1. Discuss the following conditions in terms of their etiology, pathophysiology, clinical features and management. (7.5+7.5=15)
   - Acquired immunodeficiency syndrome (AIDS)
   - Pulmonary tuberculosis
2. Patient A, an 8 years old boy came to the hospital with frequent episodes of low grade fever. On examination the child had slight lymphadenopathy and splenomegaly. On subsequent investigations the patient was diagnosed to have leukaemia. Discuss the following with regard to patient A: (6+6+3=15)
   - Management
   - Nurses role in bone marrow aspiration
   - Counselling family members

Short Notes (6x5=30)

3. Respiratory acidosis
4. Assessment of respiratory system
5. Cardiogenic shock
6. Types of anaemia and its treatment
7. Nephrotic syndrome
8. Clinical features and drugs used in parkinsonism

Nurse's role for the following (3x3= 9)

9. Cardiac catheterization
10. Prevention of diabetic complications
11. Barrier nursing

Give reasons for the following (3x2=6)

12. Canned foods are avoided in patients with chronic heart failure
13. Oxygen of 1-2 litres is administered for a client with COPD
14. Food and fluids are withheld for 1-2 hours after a bronchoscopy

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Q.P. CODE: 201010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations May 2017

Medical Nursing Including Pathology

Time: 3 Hrs Max. Marks: 75

- Answer all questions
- Draw diagram wherever necessary

Essays (2x15=30)

1. Define transient ischemic attack (TIA). Compare the clinical features of patients with right and left sided hemiplegia. Elaborate the nursing management of a patient with left sided hemiplegia. (1+5+9 = 15)
2. Specify the diagnostic tests used for patients with respiratory problems. Explain any one in detail with regard to purpose, procedure and nurses role. (3+12=15)

Short Notes (6x5=30)

3. Sexually transmitted diseases and its prevention
4. Herpes
5. Complications of type II diabetes mellitus
6. Intravenous pyelogram
7. Disseminated intravascular coagulation (DIC)
8. Concept of disease causation

Nurse's role for the following (3x3= 9)

9. Prevention of hypovolemic shock
10. Thoracentesis
11. Cystoscopy

Give reasons for the following (3x2=6)

12. Patients on steroid therapy should avoid skipping the dose without doctors order
13. A patient with Graves disease is administered propranolol (Inderal)
14. Injection sites to be rotated while administering injection insulin

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Q.P. CODE: 201010 Reg. No: .....

Second Year B.Sc Nursing Degree Examinations – October 2016

Medical Nursing Including Pathology

Time: 3 Hrs Max. Marks: 75

- Answer all questions
- Draw diagram wherever necessary

Essays (2×15=30)

1. A 24 years old lady is admitted to your ward with HIV infection and fever. Differentiate between HIV infection and AIDS. Explain the modes of transmission of HIV infection. Explain the medical management of HIV infection and describe the nursing management of this patient. (2+3+4+6=15)
2. Mrs. S is admitted to your ward with type II diabetes mellitus. Differentiate between type I and type II diabetes. Enlist the risk factors of type II diabetes mellitus and add a note on oral hypoglycaemic drugs. Explain the acute complications of diabetes mellitus. (3+3+4+5=15)

Short Notes (6x5=30)

3. Portal hypertension
4. Nephrotic syndrome
5. Pulmonary oedema
6. Pemphigus
7. Mantoux test
8. Gout.

Nurse's role for the following (3x3= 9)

9. Colonoscopy
10. Glucose tolerance test
11. Care of a patient with thrombocytopenia

Give reasons for the following (3x2=6)

12. Bowel wash is given for patients with hepatic encephalopathy
13. Haemarthrosis is often seen in patients with haemophilia
14. The sensor of the pulse oximeter is placed on the patients nail.

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Q.P. CODE: 201010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations – May 2016

Medical Nursing Including Pathology

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays **(2×15=30)**

1. Mr Rajkumar aged 45 years is admitted with severe chest pain and diagnosed as a case of acute myocardial infarction. Define myocardial infarction and list the risk factors. Describe the clinical manifestations of myocardial infarction. Explain the nursing assessment and nursing interventions for three important nursing diagnoses for this patient. (2+4+3+6=15)
2. Mrs Nagamma is admitted to the nephrology ward with chronic kidney disease. Define chronic kidney disease and enumerate its causes. Prepare a diet plan for Nagamma. Discuss the nursing care for her using nursing process approach. (1+3+4+7=15)

Short Notes **(6x5=30)**

3. Pulmonary function test
4. Dengue fever
5. Cardio pulmonary resuscitation
6. Leptospirosis
7. Glasgow coma scale
8. Management of organophosphorous poisoning.

Nurse's role for the following **(3x3= 9)**

9. Thoracentesis
10. Bone marrow aspiration
11. Treadmill test

Give reasons for the following. **(3x2=6)**

12. Diabetic patients are advised to wear well fitting footwear.
13. Serial urine samples of the patient are collected for observation after renal biopsy
14. Patient after lumbar puncture is nursed flat in bed

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Q.P. CODE: 201010 Reg. No: .....

Second Year B.Sc Nursing Degree Examinations, November 2015

Medical Nursing Including Pathology

Time: 3 Hrs Max. Marks: 75

- Answer all questions
- Draw diagram wherever necessary

Essays (2*15=30)

1. Laxman, 65 years old chronic smoker is admitted to the CCU with complaints of exertional dyspnea, swelling of the lower legs and severe dizziness. He is diagnosed as a case of right ventricular failure (RVF). Mention any two differences between left ventricular failure and right ventricular failure. Explain the pharmacologic management of congestive heart failure. Prepare a nursing care plan for Mr. Laxman based on three prioritized nursing problems. (2+6+7=15)

2. Ms.Suma, a 16 years old girl is admitted with the diagnosis of acute renal failure. List the etiological factors of acute renal failure. Explain the pathophysiology of acute renal failure. Explain the nursing management of Ms.Suma (3+5+7=15)

Short Notes (6x5=30)

3. CSF analysis
4. Acute complications of diabetes mellitus
5. Counselling of an HIV (Human immune deficiency virus) infected patient
6. Migraine
7. Dengue fever
8. Iron-deficiency anaemia

Nurse's role for the following (3x3= 9)

9. Blood translusion
10. Thoracocentesis
11. Lumbar puncture

Give reasons for the following (3x2=6)

12. Oral feed is contraindicated immediately after upper gastrointestinal endoscopy.
13. Client with ascites needs to be placed in fowler's position
14. High protein diet is encouraged for a child with nephrotic syndrome

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Q.P. CODE: 201010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations, June 2015

Medical Nursing Including Pathology

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays **(2×15=30)**

1. Mr. T, 60 years old agricultural worker is admitted with a history of snake bite. List the four major poisonous snakes in India. What are the signs and symptoms seen in case of neurotoxic envenomation. Describe the first aid measures after a snake bite. Describe the medical treatment for this patient with neurotoxic symptoms. (2+4+4+5=15)
2. Mr. A, 55 years old chronic smoker is admitted with the diagnosis of chronic obstructive pulmonary disease (COPD). What are the diseases included in COPD and describe the diagnostic tests to confirm the diagnosis. Explain the pathophysiology. Prepare a nursing care plan for this patient with nursing assessment for three priority problems. (2+3+4+6=15)

Short Notes **(6x5=30)**

3. Factors causing diseases
4. Steps in nursing process
5. Tetany
6. Hepatitis- A
7. Angina pectoris
8. Nephrotic syndrome

Nurse's role for the following **(3x3= 9)**

9. Chest physiotherapy
10. Electro encephalogram
11. Intravenous pyelography (IVP)

Give reasons for the following **(3x2=6)**

12. Sodium restricted diet in hypertension
13. Patients should be on NPO status before gastroscopy
14. Ensuring that food is available before administering insulin.

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Q.P. CODE: 201010 Reg. No: .....

Second Year B.Sc Nursing Degree Examinations, October 2014

Medical Nursing Including Pathology

Time: 3 Hrs Max. Marks: 75

- Answer all questions
- Draw diagram wherever necessary

Essays (2×15=30)

1. Mr. Ranganath a chronic smoker aged 65 years admitted with breathlessness is diagnosed as a case of COPD. Define COPD and list the causes of COPD. Discuss the findings on respiratory assessment. Explain the nursing care of this patient using nursing process approach. (1+3+4+7=15)

2. Mr. X is admitted as a case of hepatic encephalopathy. Define hepatic encephalopathy and explain its pathophysiology in brief. Discuss the medical management. Prepare a nursing care plan for four priority nursing problems (1+3+4+7=15)

Short Notes (6x5=30)

3. Thyroid crisis
4. DOTS therapy in tuberculosis
5. Renal biopsy
6. Cardiogenic shock
7. Parkinsonism
8. Health education to a patient with hepatitis- B

Nurse's role for the following procedures (3x3= 9)

9. Lumbar puncture
10. Liver biopsy
11. Blood transfusion

Give reasons for the following (3x2=6)

12. Urine output is closely monitored in a patient with acute gastroenteritis
13. Patient with meningitis is preferably nursed in a room with dim lights.
14. After cardiac catheterization, the limb used for cannulation is immobilized.

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Q.P. CODE: 201010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations, July 2014

Medical Nursing Including Pathology

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays (2×15=30)

1. Mr. R, 54 years old company executive is admitted with the diagnosis of coronary artery disease. Define coronary artery disease and list the risk factors associated with the disease. Describe the pathophysiology and prepare a health education plan on prevention of coronary artery disease (2+3+4+6=15)
2. Mr. A, 62 years is admitted with hepatic coma: Define hepatic coma and enumerate its etiology. Explain the medical management of hepatic coma and describe the nursing management of Mr. A. (2+3+4+6=15)

Short Notes (6x5=30)

3. Guillian Barre syndrome.
4. Thyroid storm
5. Glucose tolerance test
6. Graft versus host disease
7. Dengue fever
8. Gonorrhoea

Nurse's role for the following (3x3= 9)

9. Fine needle aspiration cytology (FNAC)
10. Renal biopsy
11. Infection control

Give reasons for the following (3x2=6)

12. Fruits and fruit juices are restricted in patients with chronic renal failure
13. Reverse isolation is practised while caring for patients with leukaemia
14. Diabetic patients are advised to wear properly fitting foot wears

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Q.P. CODE: 201010 Reg. No: .....

Second Year B.Sc Nursing Degree Examinations, October 2013

Medical Nursing Including Pathology

Time: 3 Hrs Max. Marks: 75

- Answer all questions
- Draw diagram wherever necessary

Essays (2×15=30)

1. Define bronchial asthma. Explain the pathophysiology of bronchial asthma. Describe the clinical manifestations of bronchial asthma. Prepare a discharge teaching plan for the patient with bronchial asthma. (2+4+3+6=15)
2. Mr Suresh, a chronic alcoholic is admitted to the ICU with haemetamesis and fall in blood pressure. Define cirrhosis of liver and explain the complications of cirrhosis of liver. Describe the immediate management of Mr Suresh. (2+5+8=15)

Short Notes (6x5=30)

3. Addison's disease
4. Parkinsonism
5. Lumbar puncture
6. Typhoid fever
7. Pemphigus
8. Normal ECG (Electrocardiogram)

Nurse's role for the following (3x3= 9)

9. Cardio-pulmonary resuscitation
10. Bone marrow biopsy
11. Oral glucose tolerance test(OGTT)

Give reasons for the following (3x2=6)

12. Client on anti-hypertensive drugs should be cautious while moving out of bed on awakening.
13. Placing an eye-patch on an unconscious client is essential.
14. Sorbitrate tablets for a patient with acute angina pain is to be administered sublingually.

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Q.P. CODE: 201010 Reg. No: .....

Second Year B.Sc Nursing Degree Examinations, September 2012

Medical Surgical Nursing Including Pathology

Time: 3 Hrs Max. Marks: 75

- Answer all questions
- Draw diagram wherever necessary

Essays (2x15:30)

1. Mrs. Thangam is admitted with the diagnosis of acute angina pectoris. Explain the pathophysiology of angina pectoris. Describe the different types of angina pectoris. Prepare a discharge teaching plan for this patient. (4+5+6=15)
2. Mr. Ravi, 55 years is admitted with the diagnosis of acute renal failure. Explain the causes of acute renal failure. Prepare a nursing care plan for this patient according to nursing process based on three prioritized nursing problems. (7+8=15)

Short Notes (6x5=30)

3. Haemophilia
4. Classification of shock
5. Antihypertensive drugs
6. Cholera
7. Complications of cirrhosis of liver
8. Guillian Barre syndrome

Nurse's role for the following (3x3= 9)

9. Liver biopsy
10. Electro encephalogram(EEG)
11. Incentive spirometry

Give reasons for the following (3x2=6)

12. Liberal intake of fluids is encouraged for a patient after cystoscopy.
13. Pulse rate should be checked before administering tab-digoxin.
14. Intake output chart should be maintained for a client on diuretics

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QP Code: 212010 Reg. No:.....

Second Year B.Sc Nursing Degree Supplementary Examinations
September 2023

Medical Surgical Nursing (Adult including Geriatrics) – I

Surgical Nursing

(2016 Scheme)

Time: 3 hours **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Long Essay (12)

1. Mrs. Z is diagnosed to have Glaucoma

   Answer the following

   a) Define Glaucoma

   b) Classification of Glaucoma

   c) Describe the management of Glaucoma (2+4+6)

Short Essays (2x7=14)

2. Explain about osteoporosis
3. Intestinal obstruction

Short Notes (5x5=25)

4. Explain about cholecystitis
5. Otitis media
6. Describe about hypothyroidism
7. Care of patient after Mastectomy
8. Explain thrombo angitis obliterans

Differentiate between (3x4=12)

9. General and Local Anaesthesia
10. Hypospadias and Epispadias
11. Subluxation and Dislocation

List the following (3x4=12)

12. Classification of aneurysm
13. Types of fracture
14. Complications of anesthesia

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2010 Scheme

Q.P. CODE: 202010 **Reg. No:** .....

Second Year B.Sc Nursing Degree Supplementary Examinations
April 2023

Surgical Nursing

Time: 3 Hrs **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Essays **(25)**

1. Mrs. Regina, 34 years is admitted with severe colicky pain and USG revealed multiple renal stone. Describe the types of renal stones. Prepare a health education guideline for Mrs. Regina. (8+7)
2. Mrs. Radha, 40 years old is admitted for thyroidectomy. List down the indications of thyroidectomy. Explain the post-operative management of Mrs. Radha. (3+7)

Short Notes **(5x5=25)**

3. Causes for glaucoma
4. Mastectomy exercises
5. Pathophysiological changes in Benign Prostatic Hyperplasia (BPH)
6. Care of patient with urinary catheter
7. Care of patient with colostomy

List down the following **(5x3=15)**

8. Signs and symptoms of increased ICP
9. Risk factors of carcinoma breast
10. The types of suture materials
11. Methods of urinary diversions
12. Stages of fracture healing

Differentiate between the following **(5x2=10)**

13. Coup and counter coup injuries
14. Decerebrate and decorticate posturing
15. Osteoarthritis and rheumatoid arthritis
16. Billroth type I and Billroth type II operations
17. Normal saline and dextrose saline

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QP Code: 212010 Reg. No:.....

Second Year B.Sc Nursing Degree Regular/Supplementary Examinations April 2023

Medical Surgical Nursing (Adult including Geriatrics) – I

Surgical Nursing

(2016 Scheme)

Time: 3 hours **Max. Marks: 75**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw diagrams wherever necessary***

Long Essay **(12)**

1. Mr. A, 48 years old diagnosed as carcinoma rectum is posted for colostomy.

   Answer the following.

   a) Enumerate the clinical features of carcinoma rectum.
   b) Write the postoperative management of Mr. A
   c) Outline the health education plan for Mr. A after colostomy. (3+5+4)

Short Essays **(2x7=14)**

2. Surgical management of benign prostatic hypertrophy.
3. Duties and responsibilities of nurse in operation theatre.

Short Notes **(5x5=25)**

4. Corneal transplantation.
5. Epistaxis.
6. Care of patient after mastectomy.
7. Types of sutures.
8. Osteoporosis.

Differentiate between **(3x4=12)**

9. Intracapsular cataract extraction and Extracapsular cataract extraction.
10. First degree burns and Second degree burns.
11. Direct inguinal hernia and Indirect inguinal hernia.

List the following **(3x4=12)**

12. Causes of hearing loss.
13. Types of wound.
14. Complications of thyroidectomy.

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2010 Scheme

Q.P. CODE: 202010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations
October 2022

Surgical Nursing

Time: 3 Hrs Max. Marks: 75

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Essays (25)

1. Describe the etiology and clinical manifestations in a patient with intestinal obstruction. Explain the nursing management of patient with a permanent colostomy. (4+3+8)
2. Discuss the etiology, clinical manifestations, surgical management and the nursing management of a patient suffering from hyperthyroidism. (2+2+2+4)

Short Notes (5x5=25)

3. Operation theatre design
4. TNM classification system
5. Intercostal drainage
6. Tracheostomy
7. Haemorrhoids

List down the following (5x3=15)

8. Methods of urinary diversion
9. Surgeries for renal calculi
10. Methods of administration of anaesthesia
11. Types of vagotomy
12. Stages of fracture healing

Differentiate between the following (5x2=10)

13. Osteomyelitis and osteomalacia
14. Medical asepsis and surgical asepsis
15. Blepharitis and conjunctivitis
16. Arthroscopy and cystoscopy
17. Open-angle glaucoma and angle closure glaucoma

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QP Code: 212010 Reg. No:.....

Second Year B.Sc Nursing Degree Supplementary Examinations October 2022

Medical Surgical Nursing (Adult including Geriatrics) – I

Surgical Nursing

(2016 Scheme)

Time: 3 hours Max. Marks: 75

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Long Essay (12)

1. Mr. X is admitted with flail chest following a road traffic accident. Define flail chest. Write the pathophysiology of flail chest. Describe the nursing management of a patient with flail chest for the first 72 hours based on nursing process. (2+4+6)

Short Essays (2x7=14)

2. Mr. Anand was taken for thyroidectomy following which he had thyroid storm in the immediate post-operative period. Define thyroid storm. List clinical manifestations of thyroid storm. Brief on monitoring of a patient with thyroid storm. (2+2+3)
3. Mr. R was diagnosed to have Thrombo Angitis Obliterans (TAO) and is posted for below knee amputation. List the etiology and risk factors of TAO. What are the clinical manifestations of TAO. Plan health education for Mr. A after below knee amputation. (2+2+3)

Short Notes (5x5=25)

4. Meniere's disease
5. Immediate management in laryngitis
6. Glaucoma
7. Stages of fracture healing
8. Intestinal obstruction

Differentiate between (3x4=12)

9. Hemoptysis and hematemesis
10. Empyema and emphysema
11. Ulcerative colitis and regional ileitis

List the following (3x4=12)

12. Types of anesthesia
13. Types of tonsillitis
14. Types of renal calculi

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2010 Scheme

Q.P. CODE: 202010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations May 2022

Surgical Nursing

Time: 3 Hrs **Max. Marks: 75**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw diagrams wherever necessary***

Essays **(25)**

1. Discuss the risk factors, types, diagnostic studies, surgical management and the postoperative nursing management of a patient suffering from breast cancer with a special note on postoperative exercises (2+2+2+3+6)
2. Discuss the classifications of fracture. Explain the clinical manifestations, surgical management and the homecare management of a patient with fracture hip. (2+2+2+4)

Short Notes **(5x5=25)**

3. Biomedical waste management in operation theatre
4. Fluid therapy in burns
5. Varicose veins
6. Appendicitis
7. Health teaching following below knee amputation

List down the following **(5x3=15)**

8. Types of colostomy
9. Causes of intestinal obstruction
10. Complications of anaesthesia
11. Types of cataract surgery
12. Types of urinary calculi

Differentiate between the following **(5x2=10)**

13. Otosclerosis and osteoporosis
14. Dacryocystitis and Cholecystitis
15. Myotics and mydriatics
16. Empyema and surgical emphysema
17. Nephrectomy and nephrostomy

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QP Code: 212010 Reg. No:.....

Second Year B.Sc Nursing Degree Regular/Supplementary Examinations May 2022

Medical Surgical Nursing (Adult including Geriatrics) – I

Surgical Nursing

(2016 Scheme)

Time: 3 hours **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Long Essay (12)

1. Explain the pathophysiology of intestinal obstruction. Discuss the surgical management of intestinal obstruction. Explain the preoperative nursing management of a patient with intestinal obstruction. (3+3+6)

Short Essays (2x7=14)

2. Discuss the etiology, clinical manifestations and the surgical management of renal calculi. (2+2+3)
3. Explain the clinical manifestations and the management of fracture (2+5)

Short Notes (5x5=25)

4. Tonsillitis
5. Pneumothorax
6. Dacryocystitis
7. Amputation
8. Biomedical waste management in operation theatre

Differentiate between (3x4=12)

9. Rheumatoid arthritis and osteoarthritis
10. Anal fistula and anal fissure
11. Infection and inflammation

List the following (3x4=12)

12. Phases of general anesthesia
13. Types of burns
14. Postoperative respiratory complications

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2010 Scheme

Q.P. CODE: 202010 **Reg. No: .....**

Second Year B.Sc Nursing Degree Supplementary Examinations February 2022

Surgical Nursing

Time: 3 Hrs **Max. Marks: 75**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw diagrams wherever necessary***

Essays **(25)**

1. Mr. Rajan, 50 years old is admitted with BPH and is posted for TURP. Explain the pathophysiological changes in BPH. Plan a health education tips for Mr Rajan for his post-operative care. (10+5)
2. Mrs. Leela 30 years old is admitted to the trauma triage with femur fracture. List the types of fracture. Explain the bone healing process. Describe the immediate management for femur fracture (2+3+5)

Short Notes **(5x5=25)**

3. Types of kidney stones
4. Assessment of patient with head injury
5. Types of mastectomy
6. Care of patient after tonsillectomy
7. Signs and symptoms of retinal detachment.

List down the following **(5x3=15)**

8. Types of cataract surgery
9. The degrees of burns
10. Components in ringer lactate solution
11. Complications of thyroidectomy
12. Indications for tracheostomy

Differentiate between the following **(5x2=10)**

13. Hernioplasty and herniorraphy
14. Gastric ulcer and duodenal ulcer
15. Cholecystectomy and cholecystodochotomy
16. Lithotomy and lithotripsy
17. Epispadias and hypospadias

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QP Code: 212010 Reg. No:.....

Second Year B.Sc Nursing Degree Supplementary Examinations
February 2022

Medical Surgical Nursing (Adult Including Geriatrics) – I

Surgical Nursing

(2016 Scheme)

Time: 3 hours **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Long Essay (12)

1. Mr. X, 50 years diagnosed as intestinal obstruction is posted for surgery. Answer the following: -
   - Explain the causes of intestinal obstruction
   - Describe the pathophysiological changes in intestinal obstruction
   - Write the preoperative preparation of Mr. X (4+4+4)

Short Essays (2x7=14)

2. Explain causes and types of renal calculi
3. Describe the types of fracture and discuss bone healing process (2+5)

Short Notes (5x5=25)

4. Breast self-examination
5. Management of glaucoma
6. Types of anesthesia
7. Infection control in operation theatre
8. Types of aneurysms

Differentiate between (3x4=12)

9. Osteoarthritis and Rheumatic arthritis
10. Anal fissure and anal fistula
11. Open pneumothorax and closed pneumothorax

List the following (3x4=12)

12. Types of sutures
13. Types of shock
14. Clinical features of Meniere's disease

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2010 Scheme

Q.P. CODE: 202010 **Reg. No:** .....

Second Year B.Sc Nursing Degree Regular/Supplementary Examinations
August 2021

Surgical Nursing

Time: 3 Hrs **Max. Marks: 75**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw diagrams wherever necessary***

Essays **(25)**

1. Mrs. Anitha 30 years old is admitted with severe abdominal pain and vomiting. Define acid peptic disease. Discuss the specific diagnostic tests to confirm the diagnosis. Explain specific post-operative nursing interventions after Billroth-I surgery. (3+4+8)
2. Define fracture. List the types of fracture. Explain the care of patient with plaster cast. (1+4+5)

Short Notes **(5x5=25)**

3. Care of patient in recovery room
4. Infection control measures in O.T.
5. Stages of wound healing
6. Care of patient with intercostal drainage
7. Fluid therapy in burns.

List down the following **(5x3=15)**

8. Types of hernia
9. Complications of head injury
10. Risk factors of carcinoma breast
11. Surgical approaches for BPH
12. Clinical features of haemorrhagic shock

Differentiate between the following **(5x2=10)**

13. Keratoplasty and myringoplasty
14. Osteomalacia and osteomyelitis
15. Laryngectomy and tonsillectomy
16. Myopia and hypermetropia
17. Paralysis and paresis

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QP Code: 212010 Reg. No:.....

Second Year B.Sc Nursing Degree Regular/Supplementary Examinations August 2021

Medical Surgical Nursing (Adult including Geriatrics) – I

Surgical Nursing

(2016 Scheme)

Time: 3 hours **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Long Essay (12)

1. Mrs. Reena, 45 years old is admitted to the emergency unit with the complaints of Dysphagia, Dyspnea, and dysphonia. She has difficulty swallowing her saliva and presented with high grade fever with severe pain and she is diagnosed to have Peritonsilar abscess. Answer the following: -
   - Describe the pathophysiological changes in peritonsillar abscess
   - Explain the post-operative management of Mrs. Reena after tonsillectomy

   (5+7)

Short Essays **(2x7=14)**

2. Explain refractive errors. Describe types of refractive errors and its management (2+5)
3. Explain the signs and symptoms of UTI and nurse's role in prevention of UTI (3+4)

Short Notes **(5x5=25)**

4. Gastro Esophageal Reflux Disease (GERD)
5. Fluid therapy in burns.
6. Complications of Thyroidectomy.
7. Care of patient with intercostal drainage
8. Procedural steps in tracheostomy suctioning

Differentiate between **(3x4=12)**

9. Thombo Angitis obliterans (TAO) and Raynaud's disease.
10. Osteoarthritis and rheumatoid arthritis.
11. Hypospadiasis - Epispadiasis

List the following **(3x4=12)**

12. Causes of hearing loss
13. Types of hospital waste
14. Types of wounds

****

2010 Scheme

Q.P. CODE: 202010 **Reg. No:** .....

Second Year B.Sc Nursing Degree Supplementary Examinations
April (November), 2020

Surgical Nursing

Time: 3 Hrs **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Essays (25)

1. Mrs. Deepa, 25 yrs old is admitted with head injury after a road traffic accident. Define head injury. Discuss specific observations to be made for this patient. Explain post-operative nursing management after craniotomy. (3+4+8)
2. Define urinary calculi and list down types of calculi. Discuss the various treatment modalities and specific health education for the patient. (1+4+5)

Short Notes (5x5=25)

3. Hyperbaric oxygen therapy.
4. Complications of chemotherapy.
5. Care of patient with chest drainage
6. Stages of wound healing.
7. Care of patient on skin traction.

List down the following (5x3=15)

8. Clinical features of osteoarthritis
9. Complications of general anaesthesia
10. Indications for tracheostomy
11. Types of sutures
12. Types of cataract

Differentiate between the following (5x2=10)

13. Bradypnea and tachypnea
14. Conjunctivitis and dacryocystitis
15. Fissure and fistula
16. Medical asepsis and surgical asepsis
17. Keratoplasty and myringoplasty

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QP Code: 212010 Reg. No:.....

Second Year B.Sc Nursing Degree Supplementary Examinations
April (November), 2020

Medical Surgical Nursing (Adult including Geriatrics) – I

Surgical Nursing

(2016 Scheme)

Time: 3 hours **Max. Marks: 75**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Long Essay **(12)**

1. 55 years old Mr. A was admitted in the ward with complaints of pain in the flank region. He was diagnosed to have renal calculi. Enumerate the causes of renal calculi. Describe the differences in pain between renal, uretic and bladder calculi. Applying nursing process, explain pre and post-operative nursing care of patient undergoing percutaneous nephrolithotomy (PCNL) (3+3+6)

Short Essays **(2x7=14)**

2. List down Indications of Thyroidectomy. Write down the Complications of Thyroidectomy. Explain Immediate post operative management after Thyroidectomy (2+2+3)
3. Nursing care of patients with Chest drainage (2+2+3)

Short Notes **(5x5=25)**

4. Clinical manifestation in renal cell carcinoma
5. Nursing care following hemorrhoidectomy
6. Retinal detachment
7. Nursing care following tonsillectomy
8. Esophageal varices

Differentiate between **(3x4=12)**

9. Colitis and Ileitis
10. Hypovolemic shock and Neurogenic shock
11. Keratitis and uveitis

List the following **(3x4=12)**

12. Complications of General Anaesthesia
13. Types of fractures
14. Drugs used in rheumatoid arthritis

****

2010 Scheme

Q.P. CODE: 202010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations October 2019

Surgical Nursing

Time: 3 Hrs Max. Marks: 75

- Answer all questions
- Draw diagram wherever necessary

Essays (25)

1. Mr. Arun, 45 yrs old is admitted with injury to the head after a road traffic accident. Define head injury. Discuss the specific assessment to be done for the patient. Explain the post operation nursing management after craniotomy (3+4+8)
2. Define thrombo angitis obliterans. List down the specific symptoms. Explain the post – operative nursing care after lumbar sympathectomy. (2+4+4)

Short Notes (5x5=25)

3. Complications of anaesthesia
4. Care of patient on skin traction
5. Stages in fracture healing
6. Care of patient with a colostomy
7. Post mastectomy exercises.

List down the following (5x3=15)

8. Types of suture materials
9. Three major complications of burns
10. Indications for tracheostomy
11. Signs of acute ischaemia
12. Clinical features of osteoarthritis

Differentiate between the following (5x2=10)

13. Medical asepsis and surgical asepsis
14. Epispadias and hypospadias
15. Stye and chalazion
16. Empyema and emphysema
17. Tachycardia and bradycardia

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QP Code: 212010 Reg. No:.....

Second Year B.Sc Nursing Degree Regular/Supplementary Examinations October 2019

Medical Surgical Nursing (Adult including Geriatrics) – I

Surgical Nursing

(2016 Scheme)

Time: 3 hours **Max. Marks: 75**

- Answer all questions
- Draw diagrams wherever necessary

Long Essay (12)

1. What are the clinical manifestations of benign prostatic hypertrophy (BPH). Describe the diagnostic measures of benign prostatic hypertrophy. Explain the management modalities of benign prostatic hypertrophy. (3+3+6)

Short Essays (2x7=14)

2. Discuss the clinical manifestations and management of a patient with chest injury (2+5)
3. Discuss the pathophysiology of acute pancreatitis. Explain the conservative therapy used in acute pancreatitis (3+4)

Short Notes (5x5=25)

4. Hydrocele
5. Eye banking
6. Varicose veins
7. Inflammatory response
8. Standard precautions in operation theatre

Differentiate between (3x4=12)

9. Disinfection and sterilization
10. Epispadias and hypospadias
11. Osteomyelitis and osteomalacia

List the following (3x4=12)

12. Types of hernia
13. Types of hearing loss
14. Types of urinary calculi

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Q.P. CODE: 202010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations April 2019

Surgical Nursing

(2010 Scheme)

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays (25)

1. Define peptic ulcer. Discuss the etiology and the pathophysiology of peptic ulcer. Explain the surgical therapy and the preoperative management of a patient suffering from peptic ulcer. (1+2+3+3+6)
2. Explain the types of burn injury. Classify the burn injury depth. Discuss the emergency management of thermal burns. (2+2+6)

Short Notes (5x5=25)

3. Inflammation
4. Increased intra cranial pressure
5. Pneumothorax
6. Epistaxis
7. Collies' fracture

List down the following (5x3=15)

8. Types of anaesthesia
9. Types of hernia
10. Types of hearing aids
11. Types of suture materials
12. Complications of wound healing

Differentiate between the following (5x2=10)

13. Disinfection and sterilization
14. Osteoarthritis and rheumatoid arthritis
15. Mastectomy and mastoidectomy
16. Skin traction and skeletal traction
17. Myopia and hypermetropia

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QP Code: 212010 Reg. No:.....

Second Year B.Sc Nursing Degree Supplementary Examinations
April 2019

Medical Surgical Nursing (Adult including Geriatrics) – I

Surgical Nursing

(2016 Scheme)

Time: 3 hours **Max. Marks: 75**

- Answer all questions
- Draw diagrams wherever necessary

Long Essay **(12)**

1. Discuss the sources and classification of burn injury. Explain the nursing management of a patient with 70% burns during emergent phase. (2+3+7)

Short Essays **(2x7=14)**

2. Define glaucoma. Discuss the medical and surgical management of glaucoma (1+3+3)
3. Enumerate the risk factors for breast cancer. Discuss the surgical management of breast cancer (2+5)

Short Notes **(5x5=25)**

4. Wound healing process
5. Principles of operation theatre technique
6. Preoperative teaching
7. Hiatus hernia
8. Enucleation

Differentiate between **(3x4=12)**

9. Subluxation and dislocation
10. Empyema and emphysema
11. Dacryocystitis and cholecystitis

List the following **(3x4=12)**

12. Classification of anesthesia
13. Types of aneurysms
14. Complications of fracture

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QP Code: 212010 Reg. No:.....

Second Year B.Sc Nursing Degree Examinations October 2018

Medical Surgical Nursing (Adult including Geriatrics) – I

Surgical Nursing

(2016 Scheme)

Time: 3 hours **Max. Marks: 75**

- Answer all questions
- Draw diagrams wherever necessary

Long Essay (12)

1. Mrs. Raji, 45 years old had undergone modified radical mastectomy for cancer of breast. List postoperative exercises following mastectomy. Describe the nursing management of Mrs. Raji for the 1st 48 hours of surgery. Explain breast self-examination. (3+6+3)

Short Essays (2x7=14)

2. Mr. Rajan is admitted to post-operative unit following gastrectomy for cancer of stomach. What are the risk factors of cancer of stomach. Briefly explain the complications and its management following gastrectomy. (3+4)
3. Mrs. X is admitted with history of alleged burns. Classify burns according to the cause of injury. What are the complications of burns in the acute phase. Which are the formulae used to calculate fluid replacement in burn injury. (2+2+3)

Short Notes (5x5=25)

4. Complications of general anesthesia in the immediate post-operative period
5. Lung abscess
6. Inflammatory bowel disease
7. Keratitis
8. Types of splints and their indications in fracture

Differentiate between (3x4=12)

9. Myopia and hypermetropia
10. Anal Fissure and Anal Fistula
11. Hypovolemic and anaphylactic shock

List the following (3x4=12)

12. The causes of intestinal obstruction
13. Types of aneurysms
14. List the causes of epistaxis

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Q.P. CODE: 202010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations
October 2018

Surgical Nursing

(2010 Scheme)

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays **(25)**

1. Explain the etiology, clinical manifestations and surgical approaches in a patient with carcinoma breast. Explain the post-operative management of patient who has undergone mastectomy. (3+2+3+7)
2. Mr. Mark, 60 years old is admitted with the history of severe headache, vomiting, confusion and double vision. What are the causes and risk factors for increased ICP and explain the nursing management for increased ICP. (5+5)

Short Notes **(5x5=25)**

3. Causes of carcinoma stomach
4. Nursing management for epistaxis
5. Types of suture materials
6. Care of patient after cataract surgery
7. Glasgow coma scale (GCS) interpretation

List down the following **(5x3=15)**

8. Signs and symptoms of otitis media
9. The benefits of deep breathing and coughing exercise
10. Complications of fracture
11. Stages of general anaesthesia
12. Surgical approaches in benign prostatic hypertrophy

Differentiate between the following **(5x2=10)**

13. Acceleration and deceleration injuries
14. Intracranial pressure and intra ocular pressure
15. Fumigation and disinfection
16. Hyponatremia and hypernatremia
17. Myopia and hypermetropia

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Q.P. CODE: 202010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations May 2018

Surgical Nursing

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays **(25)**

1. Mrs. Sarah aged 60 yrs is admitted with complaints of lump in her breast. Define Breast cancer. List down the surgical approaches. Explain specific post – operative nursing management. (3+4+8)

2. Define renal calculi. Enumerate the types of renal calculi. Explain the post-operative management of patient with renal calculi (2+3+5)

Short Notes **(5x5=25)**

3. Care of patient with plaster cast
4. Continuous bladder irrigation
5. Stages of anaesthesia
6. Care of patient with an ileostomy
7. Complications of thyroidectomy.

List down the following **(5x3=15)**

8. Methods of dressing
9. Three complications of gastrectomy
10. Principles in functioning of ICD
11. Signs of increased intracranial pressure
12. Clinical features of rheumatoid arthritis

Differentiate between the following **(5x2=10)**

13. Bradypnea and tachypnea
14. Segmental resection and pneumonectomy
15. Fissure and fistula
16. Haemothorax and pneumothorax
17. Ischaemia and infarction

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Q.P. CODE: 202010 Reg. No: .....

Second Year B.Sc Nursing Degree Examinations October 2017

Surgical Nursing

Time: 3 Hrs Max. Marks: 75

- Answer all questions
- Draw diagram wherever necessary

Essays (25)

1. Mr. Kumar aged 68 yrs admitted with complaints of burning micturition and increased frequency of urination. Define benign prostatic hyperplasia (BPH). List down the clinical manifestations. Explain the specific post-operative nursing management of this patient. (2+5+8=15)
2. Define Raynaud's disease. List the clinical features of acute ischemia. Explain nursing care after lumbar sympathectomy. (2+4+4=10)

Short Notes (5x5=25)

3. Types of head injury
4. Standard precautions
5. Stages of anaesthesia
6. Methods of urinary diversion
7. Pre-operative patient education

List down the following (5x3=15)

8. Types of hearing aids
9. Warning signs of cancer
10. Three principles of operation theatre technique
11. Three types of fractures
12. Three indications for colostomy

Differentiate between the following (5x2=10)

13. Stye and chalazion
14. Laryngectomy and tonsillectomy
15. Osteoarthritis and rheumatoid arthritis
16. Segmental resection and pneumonectomy
17. Epispadias and hypospadias

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Q.P. CODE: 202010 Reg. No: .....

Second Year B.Sc Nursing Degree Supplementary Examinations May 2017

Surgical Nursing

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays (25)

1. Mrs. Saroja aged 50 yrs mother of 2 children came with a lump in her breast. Define Breast cancer. List down the diagnostic tests to confirm the diagnosis. Explain specific post-operative nursing management of this patient. (3+4+8=15)
2. Define amputation. List the complications following amputation. Explain the rehabilitative measures for this patient. (1+4+5=10)

Short Notes (5x5=25)

3. Complications of thyroidectomy
4. Ocular emergencies
5. Infection control in operation theatre
6. Management of a drain
7. Care after pneumonectomy

List down the following (5x3=15)

8. Types of chest injuries
9. Three major complication of burns
10. Types of colostomy
11. Types of hernia
12. Three types of anaesthesia

Differentiate between the following (5x2=10)

13. Hemoptysis and hematemesis
14. Paralysis and paresis
15. Ischemia and infarction
16. Osteomalacia and osteomyelitis
17. Benign tumour and malignant tumour

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Q.P. CODE: 202010 Reg. No: .....

Second Year B.Sc Nursing Degree Examinations – October 2016

Surgical Nursing

Time: 3 Hrs **Max. Marks: 75**

- Answer all questions
- Draw diagram wherever necessary

Essays (25)

1. Mrs Rema 48 years old is admitted in the ward with diagnosis of intestinal obstruction. Answer the following: List down the causes. Enumerate the signs and symptoms. Plan the post operative nursing care on priority basis of the first 48 hours. (3+4+8=15)
2. Define the term urolithiasis. Enumerate the types and explain the various methods in management of patient with urolithiasis. (1+4+5=10)

Short Notes (5x5=25)

3. Fluid therapy in burns
4. Types of suture materials
5. Care of patient with intercostals drainage
6. First aid measures for epistaxis
7. Complications of thyroidectomy

List down the following (5x3=15)

8. Types of glaucoma
9. Warning signs of cancer
10. Indications for tracheostomy
11. Stages of bone healing
12. Signs of increased intracranial pressure

Differentiate between the following (5x2=10)

13. Fracture and dislocation
14. Pharyngitis and tonsillitis
15. Closed and open reduction
16. Myopia and hypermetropia
17. Skin traction and skeletal traction

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