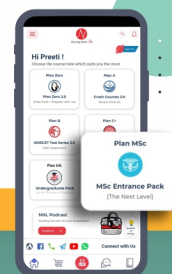


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Dear All

Target High MSc Entrance has been conceptualized and developed with a sole purpose of benefitting the thousands of MSc Nursing aspirants across the country by providing them a one-stop solution to everything they need to excel. Authors, publisher and everyone associated with this project aimed to channelize your efforts with this book so as to save your time and money you invest in referring to various different resources for the same information.

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*"Coming together is a beginning. Keeping together is progress.
Working together is success."*

It gives us immense pleasure to share with you that Nursing Knowledge Tree—An initiative by CBS Nursing Division, has successfully established itself in the field of nursing as we have been standing as a strong contender by sharing approximately 50% of market share. This growth could not have been possible without your invaluable contribution as our reader, author, reviewer, contributor and recommender, and your outstanding support for the growth of our titles as a whole. Before I enunciate in detail, I would like to thank each and every Clinical Nurse, Academician and Nursing Student for the phenomenal support during the COVID-19 pandemic. It is all your support that instilled a sense of responsibility in us and provided us with strength and motivation to survive under the worst circumstances of the pandemic.

The last two years were the most crucial phase when the entire world stood still due to adversity of COVID-19. The normal life was in turmoil, and people had no idea what would be their next step and how long this crisis would persist. In the midst of all, a few things which nobody could stop is 'Change', which is inevitable. During the last two years, we have done a lot of innovations and put our best efforts in implementing those innovations to bring quality education and make sure that every person should have access to best possible education.

It is worth mentioning that with all your support we have made some remarkable innovations in the field of nursing education, which are:

1. More quality books by the top Authors from the top institutes
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As a publisher, we have been contributing to the field of Medical Sciences, Nursing and Allied Sciences and have many established titles in the market. Tradition is carrying forward the legacy of the old pattern and approach in the contemporary time. We broke the boundary of being a traditional publisher through innovations and changes. As far as publishing industry is concerned, we are the first to enter in **Nursing EdTech** with the Launch of **Nursing Next Live App**.

Through Nursing Next Live, we made possible the reach of quality education from Jammu and Kashmir to Kanyakumari and from Gujarat to Arunachal Pradesh.

We started with the mission:

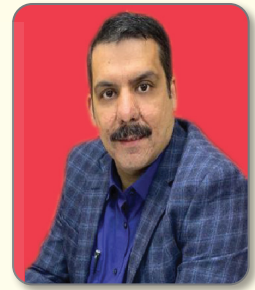
"We are bringing Learning to the People Instead People are going for the Learning."

When pandemic halted everything, the future seemed to be doomed, Nursing Next Live made it possible for the Nursing Professionals from across the nation to keep continuing their learning and helped them to achieve their dream career.

In a step toward strengthening the Nursing Segment, we have melded the four important pillars—Print, Digital, Nursing Professionals and Social Media—to work in a homogenized manner for the better future of the nursing education through:

NN Social, a community of 20K+ professionals, is an initiative of Nursing Next Live as India's knowledge-sharing network platform for the nursing segment. Nursing Next Social is curated with the aim to bring all the nursing faculty members from across the nation closer and together on a single platform. Through **NN Social**, we aim to connect the sharp minds from across the nation to use their knowledge for the better future of Nursing Professions. With NN Social **India's top-notch societies, like TNAI, SOCN, NTA, KINS, etc. are associated with us**. Apart from this, NN Social has a strong network of 100+ authors, 500+ reviewers and contributors. They all are dedicated and committed as we are, toward imparting quality nursing education.

In the era of digitalization, to make study interactive and convenient, we have conceptualized the idea of **Hybrid Edition of the books**. In this series, our many bestseller titles are available in the hybrid form. This hybrid learning is a blended learning wherein printed booklets are thoughtfully integrated with the digital support to reconceptualize the learning method in a more interactive manner with added values to knowledge. Hybrid edition is an endeavor to facilitate the next level of preparation for any nursing competitive exams through quality content, flexibility, customization and engaging interactive learning experiences.



We have also increased our **social media presence** through meaningful and innovative ideas and are committed to assist the nursing professionals in gaining and sharing the knowledge. We have taken the initiative to learn from the experience of the others and started **NNL Talks**. It is a platform where every nursing professional who has done exceptionally well in his/her career, toppers of any Nursing Exams and those who manage themselves in all the odds and stand firm and determined and succeed in his/her life, can share the success journey. We aim to motivate, educate and encourage the nursing professionals through various activities and posts on our social media platform.

Whatever initiative we take, we always make sure that it is for a noble cause of promoting the quality education accessible to everyone.

Today we can say this with confidence, we “CBS Publishers & NNL” have an edge over all other Indian and International Publishers. Our Approach, Vision, Mission, Concept, Content, Reach, Ideas all have a single goal that is better nursing education can lead to a better healthcare system.

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Looking forward to invite more young and experienced minds who can join us as Authors, Reviewers, Contributors, and Faculties and accomplish our mission of providing quality nursing education to all.

With Best Wishes

Mr Bhupesh Aarora

Sr. Vice President – Publishing & Marketing
(Health Sciences Division)



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A heartfelt appreciation to you all for reviewing the subjects and giving your valuable suggestions and feedback in making **Target High MSc Entrance** a unique and more comprehensive compendium. The new features that **Target High MSc Entrance** comprises would not have been possible without your cooperation and support.



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Preface

Chanakya affirmed, "Health is our real asset, and real wealth. Without good health, you cannot move forward. It is like dragging a car forward without fuel."

It is true to a great extent as without a good health, it's not possible to live a normal life. We must have a sound health in order to excel in each area of life, and this is what the Government of India thinks as well. To keep the target of providing good health, the Government needs an efficient and knowledgeable health care force. The nurses are an integral part of this force and play a vital role in health care system. After bachelor degree in nursing, the aspirants go for master's degree that is MSc in Nursing. Many students think that the entrance exam for MSc nursing is very tough and only the scholars can get through it. However, it is not true and any students can pass the entrance exam, provided targeted preparatory material is made available to him or her. This book is conceptualized to provide the best source for the preparation of the competitive exam and then get admission in MSc and boost the career graph.

We have realized that it is the need of the hour to come out with a compact book for the MSc aspirants. There is no dearth of books in the market related to this exam but quality books are lacking. Just like any other exam, MSc Entrance Exam too needs serious preparation and devoted study. Keeping this fact in mind, we have presented the book, 'TARGET High MSc Entrance' which is a panacea for all your troubles related to this exam. It contains the materials which are prepared exclusively for the MSc exam. The study of this book will enable you to crack this exam and make your success guaranteed. We are saying this with conviction because this book has been presented before you after doing extensive research, and many subject experts have put in hard labor while molding and shaping this book exclusively for the MSc exam.

The book "Target High MSc Entrance" has two sections. Section A has Synopsis followed by Topic wise explained MCQs and Section B has Previous Years' Papers of all the important state level examinations.

With this book, we are continuing our legacy of bringing out the best for you. We understand our responsibilities toward our esteemed readers and that is why, as usual, we have come up once again with a book which has an edge over any other MSc Entrance Exam book available in the market.

Our success lies in your success!

Muthuvenkatachalam Srinivasan
Ambili M Venugopal

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Acknowledgments

Thanking the Almighty for His immense blessings!!!

With humility we acknowledge our indebtedness to all. Writing a book is harder than we thought and more rewarding than we could have ever imagined. None of this would have been possible without your support. Now with the blessing and support from all of you, we are presenting our new member of Target High Series, i.e., Target High MSc Entrance keeping in mind the need and demand of time.

From the inception, with profound love, we owe sincere gratitude to our parents, siblings and daughters for their unconditional love, support, understanding and forbearance throughout all ups and downs in the journey of this book.

Our teachers deserve the credit for the gift of their guidance, invaluable suggestions, constructive criticism and perpetual inspiration, which inspired us in our difficult time, kept us motivated and enabled us to complete this book.

We are forever grateful to our teacher, mentor and a great motivator **Dr. Sandhya Gupta, Former Professor cum Principal, College of Nursing, AIIMS, New Delhi** for inspiring and inculcating confidence to write a book. We want to thank **Dr Latha Venkatesan**, Professor cum Principal College of Nursing, AIIMS Delhi for her constant support and encouragement in this endeavor.

Words fail to express our gratitude to **Dr Ratna Prakash**, Principal, Pal College of Nursing, Haldwani, Uttarakhand for her constant support and encouragement on initiating this book. We are fortunate to have her in our path.

We wish to express our sincere gratitude and regards to all those, who have contributed appropriate and relevant information. Without their dedication, this endeavor might not have been possible.

It will be incomplete without mentioning the role of our beloved students, who have always been our well-wishers, constant supporters and source of learning and encouragement.

We would like to thank **Mr Satish Kumar Jain** (Chairman) and **Mr Varun Jain** (Managing Director), M/s CBS Publishers and Distributors Pvt Ltd for providing us the platform for bringing out the book. We have no words to describe the role, efforts, inputs and initiatives undertaken by **Mr Bhupesh Arora**, Sr. Vice President – Publishing & Marketing (Health Sciences Division) for helping and motivating us.

We sincerely thank the entire CBS team for bringing out the book with utmost care and attractive presentation. We would like to thank Ms Nitasha Arora (Publishing Head and Content Strategist – PGME&N and Nursing), and Dr Anju Dhir (Product Manager cum Commissioning Editor – Medical) for their editorial support. We would also extend our thanks to Mr Shivendu Bhushan Pandey (Sr. Manager and Team Lead), Mr Ashutosh Pathak (Sr. Proofreader cum Team Coordinator) and all the production team members for devoting laborious hours in designing and typesetting the book.

We are thankful to our colleagues who helped us to formulate ideas when they did not even know that they were helping. Their involvement has triggered and nourished our intellectual maturity. Once again, we express our heartfelt gratitude to the unstinting support given by our friends and everyone in our team.

Finally, we would like to thank everybody who has contributed to the successful realization of this book. We apologize if we missed anyone's name, which we assure is completely inadvertent.

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CBS Nursing Knowledge Tree

Extends its Tribute to

Florence Nightingale



*For glorifying the role of women as nurses,
For holding the title of “The Lady with the Lamp,”
For working tirelessly for humanity—
Florence Nightingale will always be
remembered for her
selfless and memorable services to the
human race.*

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Florence Nightingale
(May 1820 – August 1910)

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Papers in Nursing Next Live (Under Target High Package)



Nursing Knowledge Tree
An Initiative by CBS Nursing Division

“Ill-health of body or of mind, is defeat. Health alone is victory.”

—Thomas Carlyle

Clinical Case-Based Questions (Fundamentals of Nursing)



#1

Raghav is working in critical care area as Registered Nurse. He was providing bed bath to his client. While cleaning the lower extremities he uses long, firm strokes from the distal to the proximal areas. He does this:

- To increase the range of motion in the extremities and to prevent foot drop
- Because proximal area is cleaner than the distal area of the extremities
- To increase venous return and to prevent venous stasis
- To assess the skin integrity

Ans. (c) To increase venous return and to prevent venous stasis

Explanation: Wash the lower limbs from distal to proximal with long, gentle strokes. Washing from distal to proximal may help to promote venous return. In massage, effleurage is a technique in which the masseur's hand is moved from distal to proximal limb to enhance the venous return and lymphatic flow.

#2

Nurse Sheela is caring a patient who has difficulty in falling asleep at night. She is aware that the following interventions will help the patient to fall asleep; EXCEPT:

- Provide a warm glass of milk before the bed time
- Turn on quiet music in patient's room
- Provide back massage to the client
- Encourage short nap after lunch.

Ans. (d) Encourage short nap after lunch.

Explanation: It is normal to feel a little sleepy after eating lunch. However, sleeping after lunch may lead to difficulty in falling asleep at night. Warm glass of milk before the bedtime, listening to quiet music of patient's choice and back massage promote sleep.

#3

Nurse Shalini is educating her client regarding the collection of sputum for culture and sensitivity. Which among the following statement by the client indicates that teaching was effective?

- Collect sputum in a wide-opened mouth sterile container
- Collect sputum in the morning after rinsing with mouthwash
- Collect sputum in a plastic container and cover it with plastic wrap to prevent contamination
- Collect sputum at bed time after taking prescribed medications

Ans. (a) Collect sputum in a wide-opened mouth sterile container

Explanation: The best quality sample is usually obtained early in the morning upon rising. Mouth should be rinsed out with water or

saline prior to collection (not with mouthwash). Food should not be ingested for 1–2 hours prior to collection. It is very important that the sputum is the material coughed up from the lungs, and not saliva “spit”. For culture and sensitivity, the sputum must be collected in a sterile container. Collection of sputum at bed-time after taking medications is not recommended.

#4

A client with IV line in situ for the last 72 hours is complaining of swelling and pallor at the site. These signs indicate:

- Phlebitis
- Infection
- Infiltration
- Dislodgement

Ans. (c) Infiltration

Explanation: Infiltration is a complication IV line. When IV fluids or medications leak into the surrounding tissue, it is known as infiltration. It is caused by improper placement or dislodgment of the catheter. Manifestations include redness around the site, swelling, puffy or hard skin around the site, blanching (lighter skin around the IV site), pain or tenderness around the site, IV not working, cool skin temperature around the IV site or of the scalp, hand, arm, leg or foot near the site.

#5

Nurse Ramya is preparing Inj. Augmentin to administer. While diluting this medicine, to ensure complete dilution nurse should:

- Warm the diluents
- Shake medicine vial vigorously
- Roll the vial between the palm
- After adding diluents keep the vial as it is

Ans. (c) Roll the vial between the palm

Explanation: After reconstituting powdered form of medication with saline or water, for reconstitution it should be rolled between palms. It should not be shaken vigorously.

#6

Nurse is preparing inj. Insulin for her client. Which among the following statement is correct?

- Two types of insulin should not be mixed
- Draw up regular insulin, then NPH insulin
- Draw up long-acting insulin then short acting insulin
- Use two separate syringes to administer different types of insulin

Ans. (b) Draw up regular insulin, then NPH insulin

Explanation: When you mix regular insulin with another type of insulin, always draw the regular insulin into the syringe first. NPH (neutral protamine hagedorn) is an intermediate-acting insulin. The rapid- or short-acting insulin (clear) is drawn up first to prevent the intermediate-acting insulin (cloudy) from getting into the rapid- or short-acting insulin bottle and affecting the onset, peak, and duration.

#7

While collecting history from a client admitted in the emergency department, which among the following reported by the client is considered as subjective data?

- a. Weakness
- b. Icterus
- c. Hemoptysis
- d. Melena

Ans. (a) Weakness

Explanation: Subjective data are the symptoms which are felt by the patient and others cannot see such as weakness, tiredness, etc. All other options are objective data or signs which others can also observe which are icterus, melena, hemoptysis, etc.

#8

Which among the following is the responsibility of a scrub nurse in the operation theater?

- a. Verify the informed consent
- b. Assist the surgeon in gowning and gloving
- c. Receive the patient
- d. Maintain the count of instruments used

Ans. (d) Maintain the count of instruments used

Explanation: In the operating room, maintaining the count of instruments is the responsibility of a scrub nurse. All the other given options are the responsibilities of a circulatory nurse.

#9

Nurse Kavita in the general ward is preparing an occupied bed. Identify the incorrect statement regarding occupied bed:

- a. Roll the patient to far side of the bed
- b. Tuck the top sheet and blanket at the bottom of the bed
- c. Ask the patient to sit on a chair beside the bed
- d. Place pillow at the head end of the bed

Ans. (c) Ask the patient to sit on a chair beside the bed

Explanation: Occupied bed is a bed prepared with a patient in it, the one who cannot get out of the bed. Except option c, all other options are correct regarding occupied bed.

#10

Nurse Ramya is advised to provide continuous enteral feed to his client. Which among the following action by nurse indicates lack of knowledge in this area?

- a. Providing fowlers position to the client
- b. Administering feeds at room temperature
- c. Maintain prescribed flow rate
- d. Hang the enteral feed for one day

Ans. (d) Hang the enteral feed for one day

Explanation: Continuous enteral nutrition: gravity administered or by feeding pump continuously for 12 hrs/day or more. Except option d, all other options are correct related to continuous enteral feed.

#11

Which among the following nursing diagnosis is most important while caring for a female client with deep vein thrombosis?

- a. Risk for injury related to increased venous blood flow
- b. Altered tissue perfusion related to venous congestion
- c. Fluid volume overload related to edema
- d. Risk for infection related to altered skin integrity

Ans. (b) Altered tissue perfusion related to venous congestion

Explanation: Deep vein thrombosis leads to decreased tissue perfusion. So most appropriate nursing diagnosis is altered tissue perfusion related to venous congestion.

#12

Nursing student was taking BP of a client admitted in general ward. Student selected large cuff for the client. What finding should be expected by the instructor?

- a. Falsely high
- b. Falsely low
- c. Correct reading
- d. It can be high or low

Ans. (b) Falsely low

Explanation: The width of the bladder of the blood pressure cuff should be approximately 40% of the circumference of the upper arm midway between the olecranon and the acromion. The length of the bladder of the cuff should encircle 80–100% of the circumference of the upper arm at the same position.

If the cuff is large, it will give falsely low reading and a small cuff will give falsely high BP value.

#13

Nurse is performing physical examination of musculoskeletal system and noticed lack of voluntary coordination of muscle movements. She records this finding as:

- a. Ataxia
- b. Aphasia
- c. Tic
- d. Anisocoria

Ans. (a) Ataxia

Explanation: Given description is related to ataxia. Aphasia is a language disorder that affects a person's ability to communicate. Tic is a **sudden, repetitive, nonrhythmic motor movement or vocalization involving discrete muscle groups**. Anisocoria is the unequal pupil size.

#14

Nurse Linda is collecting history and preparing care plan for her client. In which step of nursing process, the nurse identifies the problem with the client?

- a. Assessment
- b. Diagnosis
- c. Planning
- d. Implementation



Ans. (b) Diagnosis

Explanation: The nursing assessment includes gathering information concerning the patient's individual physiological, psychological, sociological, and spiritual needs. Diagnosis is formulating a nursing diagnosis by using clinical judgment; what is wrong with the patient. Planning involves developing a care plan which incorporates goals, potential outcomes, interventions. Implementation is performing the task or intervention. Evaluation is to check whether intervention is successful or unsuccessful.

#15

During the history collection, a 30-year-old female complains to the nurse that she passes small amount of urine while she coughs or sneezes. Nurse identified this as:

- Urge incontinence
- Stress incontinence
- Overflow incontinence
- Functional incontinence

Ans. (b) Stress incontinence

Explanation: Stress incontinence: Urine leaks out at time of increased intra-abdominal pressure such as cough or laugh. Urge incontinence: Urine leaks as you feel a sudden, intense urge to pee, or soon afterwards. Overflow incontinence (chronic urinary retention): Unable to fully empty the bladder, which causes frequent leaking.

Functional incontinence is also known as disability associated urinary incontinence. It occurs when the person's bladder and/or bowel is working normally but he/she is unable to access the toilet. This may be due to a physical or a cognitive condition.

#16

A client comes to the nurse with history of UTI. Nurse teaches the client regarding measures to prevent UTI. Which among the following identified by the client indicates need for further teaching?

- Wipe the perineal area from front to back
- Wear cotton undergarments
- Increase the fluid intake
- Promote tub bath rather than shower bath

Ans. (d) Promote tub bath rather than shower bath

Explanation: Tub bath increases the risk for UTI as compared to shower bath. So in a client with UTI shower bath needs to be promoted than tub bath.

#17

A client with ascending colon colostomy came for follow up with the complain of liquid feces from the stoma. What should be the immediate nursing response?

- Report the physician
- Educate client that it's normal finding
- Ask the client's dietary history
- Prescribe anti-motility drugs

Ans. (b) Educate client that it's normal finding

Explanation: Ascending colon is the initial part of large intestine. So, in this part, stool is not well formed and water is also not

absorbed completely. So feces from colostomy will be in liquid form only.

#18

A client was admitted to the GI ward with complaint of diarrhea. Nurse Luzy listed down the following nursing diagnosis for the client. Which among the following has the most priority?

- Disturbed body image
- Fluid volume deficit
- Social isolation
- Impaired skin integrity

Ans. (b) Fluid volume deficit

Explanation: In the above given nursing diagnosis, if we prioritize them based on ABC, fluid volume deficit will come as a prior nursing responsibility for a client with diarrhea.

#19

Nurse is assisting a client for enema administration. Which among the following positions is needed for this client?

- Lithotomy
- Left lateral
- Semi fowler's
- Prone

Ans. (b) Left lateral

Explanation: In left lateral position, enema solution flows down by gravity along with natural curve of the sigmoid colon and rectum.

#20

Nursing instructor is evaluating the student nurses ET suction procedure. Which among the following is the incorrect step of doing ET suction?

- Pre-oxygenate the client with 100% oxygen
- Apply intermittent suction while inserting the catheter
- Withdraw suction catheter in rotation manner
- Wear gloves and mask while performing suction

Ans. (b) Apply intermittent suction while inserting the catheter

Explanation: Apply intermittent suction while withdrawing the catheter in circular motion is indicated. Applying suction while introducing catheter is not recommended.

#21

Client is admitted in the emergency department with the history of cramping legs and lethargy. On detailed history, nurse understood that the client is suffering from diarrhea for the last one week. What should the nurse do first?

- Administer anti-diarrheal medications
- Give IV fluid
- Monitor serum electrolyte
- Collect stool for C/S

Ans. (c) Monitor serum electrolyte

Explanation: Diarrhea for the last one week leads to fluid and electrolyte abnormality. This client is at risk for developing hypokalemia. So serum electrolyte monitoring is the primary responsibility.

Regarding the fluids, if the client can take fluid via mouth there is no need for IVF.



A

SECTION

Subject wise Synopsis, IBQs and MCQs



Nursing Research

Nursing Education

Nursing Administration

Fundamentals of Nursing

Advanced Nursing Practice and Genetics

Medical Surgical Nursing/Adult Health Nursing

Pharmacology

Community Health Nursing

Psychiatric Nursing

Obstetric and Gynecological Nursing

Pediatric Nursing

Biochemistry and Nutrition

Microbiology

Introduction to Computer and Nursing Informatics

Nursing Knowledge Tree
An Initiative by CBS Nursing Division

“Ill-health of body or of mind, is defeat. Health alone is victory.”

—Thomas Carlyle



1

CHAPTER

NURSING RESEARCH

SYNOPSIS

INTRODUCTION

Nursing research provides evidence used to support nursing practices, education, administration and management.

DEFINITION

Nursing Research is defined as “systematic inquiry designed to develop knowledge about issues of importance to the nursing profession, including nursing practice, education, administration, and informatics”—Polit and Beck.

STEPS IN THE QUANTITATIVE RESEARCH PROCESS

Conceptual Phase

- Formulating and delimiting the problem.
- Reviewing the literature.
- Developing a theoretical framework.
- Identifying the research variables.
- Formulating hypotheses.

Design and Planning Phase

- Selecting a research design.
- Specifying the population.
- Operationalizing the variables.
- Conducting the pilot study/making revisions.

Empirical Phase

- Selecting the sample
- Collecting the data
- Organizing data for analysis

Analytic Phase

- Analyzing the data
- Interpreting the results

Dissemination Phase

- Communicating results

STEPS IN THE QUALITATIVE RESEARCH PROCESS

- Define/clarify broad topic
- Review of the literature
- Identify site/setting
- Obtain access
- Obtain and test equipment
- Begin data collection/analysis
- Identify themes/categories
- Triangulation/saturation
- Formulate hypotheses/theories
- Communicate findings

RESEARCH PROCESS

Research Problem

- It is the first step in research process.
- A research problem is a question that researcher wants to answer or a problem that a researcher wants to solve.
- The research problem must be identified in terms of its potential contribution to the society, clients, nurses and the healthcare system.



Key Point

Social relevance is the important concern while choosing research problem.

Sources of Research Problem

- Personal and practical experiences
- Critical appraisal of literature
- Previous research
- Existing theories
- Performance improvement activities
- Social issues
- Brainstorming
- Intuition

Strength of Measurement Scales (Table 8)

Weaker ← Nominal – Ordinal – Interval – Ratio → Stronger

TABLE 8: Measurement scales and their strength

OK to compute....	Nominal	Ordinal	Interval	Ratio
Frequency distribution	Yes	Yes	Yes	Yes
Median and percentiles	No	Yes	Yes	Yes
Add or subtract	No	No	Yes	Yes
Mean, SD, standard error of the mean	No	No	Yes	Yes
Ratio, or coefficient of variation	No	No	No	Yes

**Key Points**

- **Ratio** represents continuous values. The degree of difference and ratio between each item can be measured. **Examples:** height, weight, distance.
- Ratio scale has a constant interval and a true zero point.

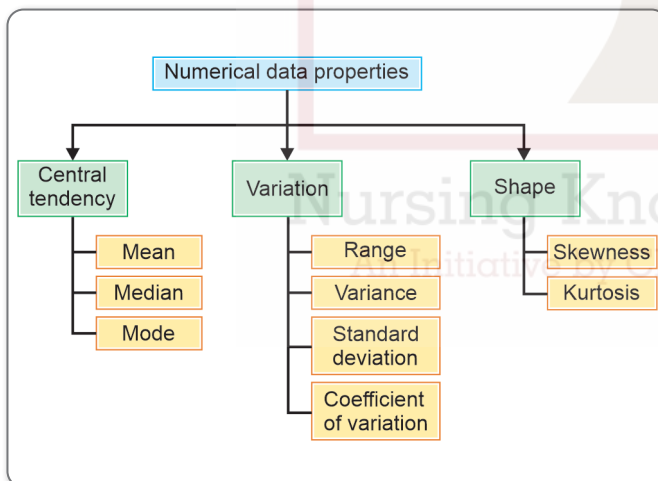
NUMERICAL DATA PROPERTIES AND MEASURES (FIG. 12)

Figure 12: Numerical data properties

Central Tendencies**Mean**

Stable average, which is based on all observations. Calculated for quantitative data, measured in interval/ratio level.

Median

Score that divides a distribution exactly in half. Exactly 50% of the data fall above the median and 50% below. To determine the median, sort the data and find the midpoint.

Mode

Mode is the **most frequently** occurring observation. Mode is not affected by extreme values.

Variation**Measures of Dispersion**

- **Range:** Difference between the highest and lowest data points.
- **Variance, SD:** Standard Deviation is the square root of variance. SD gives us an idea of 'spread' of dispersion. Larger the SD, greater the dispersion of values about mean. It is the best and **most frequently used measure of dispersion.**

Coefficient of Variation (CV):

- $CV = (SD/\mu) * 100$ [SD = Standard deviation, μ = Mean]
- CV is used when we want to compare the variation of two or more variables measured in different units or the same variables compare in two different populations.
- Ex – Comparison of variability cholesterol measured in mg/dL and age of the persons measured in years or if we want to compare the respiratory rate in infants and adults.

Standard Error

- Average deviation of a sample mean from true population mean.
- It tells us that if the study is repeated with new samples of same population, how much the mean of a sample will vary.
- Standard error = Standard deviation/ \sqrt{n} (n = sample size)

**Key Points**

- **Standard Deviation (SD)** is primarily used with mean values to provide descriptive statistics for parametric tests.
- **Interquartile range (IQR)** is primarily used with median values to provide descriptive statistics for non-parametric tests.

Probability Curve; Normal Curve

In a normally distributed data, **Mean = Median = Mode**

Normal Distribution: Standard Normal Curve or Gaussian Curve

- Smooth, bell-shaped, perfectly symmetrical curve, based on an infinitely a large number of observations.
- Total area of the curve is 1; its mean is zero; and its standard deviation is 1.
- Mean, median and mode all coincide. Mean divides the area under the curve into 2 equal halves.
- A random variable (x) is standardized when it has been adjusted so that its mean = 0 and SD = 1.



“He who has health has hope; and he who has hope has everything.”

—Arabian proverb



MULTIPLE CHOICE QUESTIONS

(Including Explained and Practice Questions)

INTRODUCTION AND DEFINITIONS

1. The word research is derived from the, which means “to go about seeking”.

- a. Recherur
- b. Recherche
- c. Researche
- d. Resherur

Explanation: The word research is derived from the Middle French “recherche”, which means “to go about seeking”, the term itself being derived from the Old French term “recherchier” a compound word from “re-” + “cerchier”, or “sercher”, meaning ‘search’. The earliest recorded use of the term was in 1577.

2. In which year, the Government of India set up the Indian Research Fund Association (IRFA)?

- a. 1911
- b. 1925
- c. 1947
- d. 1952

3. In which year, the Government of India redesignated IRFA as Indian Council of Medical Research (ICMR)?

- a. 1947
- b. 1949
- c. 1952
- d. 1955

Explanation: In 1911, the Government of India set up the Indian Research Fund Association (IRFA) with the specific objective of sponsoring and coordinating medical research in the country. After independence, it was redesignated the Indian Council of Medical Research (ICMR) in 1949, with considerably expanded scope of functions. The Indian Council of Medical Research (ICMR), headquartered at New Delhi, is the apex body in India for the formulation, coordination and promotion of biomedical research.

4. In which year, the National Center for Nursing Research (NCNR) was redesignated as the National Institute of Nursing Research (NINR)?

- a. 1985
- b. 1990
- c. 1993
- d. 2004

Explanation:

- June 10, 1993 —The NIH Revitalization Act of 1993, becomes law. Among other provisions, it elevates NCNR to an NIH Institute. As such, NCNR is redesignated the National Institute of Nursing Research (NINR).
- June 14, 1993 — The HHS Secretary signs the Federal Register notice establishing the National Institute of Nursing Research (NINR).

Source: www.nih.gov

5. The “American Journal of Nursing”, the oldest nursing journal that is still in operation was published in:

- a. 1886
- b. 1900
- c. 1908
- d. 1912

Explanation: The first nursing journal, *The Nightingale* was published on March 6, 1886, becoming the first nursing journal. In 1900, the **American Journal of Nursing** began publication, becoming the first nursing journal to be owned and operated by nurses. It remains the oldest nursing journal still in circulation.

6. The first nursing journal dedicated to nursing research, ‘Nursing Research’ was published in:

- a. 1925
- b. 1952
- c. 1965
- d. 1970

7. The terminology used to explain the number of subjects recruited to participate in a study decline during a course of the project:

- a. Variability
- b. Heterogenetic
- c. Homogeneity
- d. Attrition

Explanation: Attrition means “wearing away” or progressive loss of data in research. It occurs when cases are lost from a sample over time or over a series of sequential processes. Sample attrition is commonly expected in a longitudinal studies or experimental studies.

8. The subject in a research study behaves in a particular manner because they are aware that they are being observed. This is called:

- a. Hawthorne effect
- b. Experimental effect
- c. Reactive effect
- d. Novelty effect

Explanation: Hawthorne effect refers to the tendency of subjects to perform better when they are aware that they are being observed.

- Experimental effect: Researcher’s characteristics influence subject behavior.
- Reactive effect: Reactive effect of pretest sensitivity on the posttest.
- Novelty effect: Subjects and researcher might behave in different ways when exposed to new treatment.

9. A nurse who reads research articles and incorporates research findings into clinical practice is a:

- a. Consumer
- b. Primary investigator
- c. Co-investigator
- d. Collaborator

10. Contributions of Florence Nightingale to nursing research is:

- a. Case study approach
- b. Conceptual Framework for research
- c. Data collection and analysis
- d. Qualitative research method

11. The sentence “The purpose of this study was to examine the relationship between knowledge and preoperative anxiety among patients undergoing abdominal surgery” would most likely be found in which chapter of a research dissertation?

- a. Introduction
- b. Review of Literature
- c. Methodology
- d. Data Analysis and Interpretation



Ans.

- 1. b
- 2. a
- 3. b
- 4. c
- 5. b
- 6. b
- 7. d
- 8. a
- 9. a
- 10. c
- 11. a

SIMULATION IN CLINICAL NURSING EDUCATION

Types of Simulation

- High-fidelity mannequins:** Mannequin-based simulations use high fidelity simulators. These mannequins use technology to simulate real patient-like scenario. It has a monitor that can display ECG, Pulse-oximeter, BP, etc. The learner can experience breath sounds, heart tone and palpable pulses.
- Low-fidelity mannequins:** This is capable of performing a particular task or process. For example, mannequin for CPR learning.
- Partial task simulators:** Partial task trainers are the simulators of choice when the goal of a simulation is to practice a psychomotor skill in isolation. For example, Limb mannequin for learning IV cannulation.
- Virtual reality:** Virtual reality nursing simulation uses wireless VR headsets for fully-immersive simulations. Virtual reality uses computers and standardized patients to create a realistic learning and evaluation setting.
- Hybrid simulation:** Two or more types of simulators are combined to have more realistic simulation experience.
- Standardized patients:** Volunteers are used to play a role of patient.

GUIDANCE AND COUNSELING

- “**Guidance** is assistance made available by a competent counsellor to an individual to direct, develop and make his own decision.” – Crow and crow
- “**Counseling** is a process in which the counsellor assists the counselee to make interpretation of facts relating to a choice, plan or adjustment which he needs to make.” - Glenn F Smith

Difference between guidance and counseling

Guidance	Counseling
Broad-ranging and inclusive	Specific and narrow
Inhibitory and preventive	Corrective
Intellectual	Emotional
Education and career-related	Personal and social issues
Any experienced person can provide guidance	Only a trained personnel (Expert) should provide counseling

Different Approaches of Counseling

- Directive/Prescriptive/Counsellor centered counseling
- Non directive /Permissive / Client-centered counseling
- Eclectic counseling

Phases/Steps of Counseling

- Relationship building** – Developing client-therapist relationship (very important phase)
- Problem assessment** – Clarifying and assessing the presenting problem
- Goal setting** – Identifying and setting the treatment goals
- Counseling intervention** – Planning and implementing the interventions
- Termination** – Includes evaluation, referral and termination.

Characteristics and Qualities of a Good Teacher

- Goal-oriented
- Insightful
- Creative and technical skill
- Good communication skills
- Unbiased
- Motivated
- Quick decision maker
- Knowledgeable about the subject
- Professionalism

CONTINUING NURSING EDUCATION (CNE)

It provides the opportunity for working professionals to continue their learning and remain abreast of the developments in their field.

Roles of the Nurse as CNE Educator

- Frequently assesses learning needs of the nurses
- Applies adult learning principles
- Uses teaching techniques that empower nursing staff
- Sensitive to the learning deficits of the nursing staff and creatively minimize these difficulties
- Prepares the nurses readily regarding knowledge and skill deficits
- Actively seeks out teaching opportunities for nurses

IN-SERVICE EDUCATION

A program of instructions or training provided by an agency or institution for its employees. The program is held in the institution or agency and is intended to increase the skills and competencies of the employees in a specific area.

Table 7 Shows the differences between continuing nursing education and in-service education

TABLE 7: Differences between continuing nursing education and in-service education

Continuing nursing education	In-service education
To enhance overall knowledge and practice skills (update)	Meets requirement needed to function in a specific work setting.
Example: Conferences, Workshops, Symposiums, etc.	Example: Demonstration of new equipment, review of newly implemented protocol, etc.
Broad scope	Narrow scope
Usually a planned program	Often spontaneous
Conducted in different settings	Conducted in work setting
Responsibility of individual	Responsibility of an organization



Key Point

Approaches to in-service education:

- In-service education is a planned educational activity provided in a job setting.





Golden Points to Remember



1. BSc nursing program was first started in India in the year 1946 in Christian Medical College. (CMC), Vellore and Rajkumari Amrit Kaur (RAK) College of Nursing at Delhi University.
2. MSc nursing program was first started at RAK College of Nursing in the year 1959.
3. MPhil in nursing program was started at RAK College of Nursing in the year 1980.
4. Doctorate or PhD program in nursing was first started in India in 1992.
5. Idealism believes "Ultimate reality is spiritual rather than physical, mental rather than material".
6. Translating the message into verbal and non-verbal symbols to communicate with the receiver is called Encoding.
7. The reproduction of the essential features of a real-life situation is called **Simulation**.
8. **Cognitive domain** has different levels, like knowledge, comprehension, application, analysis, synthesis and evaluation.
9. **Psychomotor skills** refer to performance of a particular act automatically and with a high degree of efficacy. Three levels are imitation, control and automatism.
10. **Affective domain** deals with emotions or feelings indicated by words. Three levels are attention, response, internalization.
11. The best method to teach a patient any skills, such as using inhaler, is done by Demonstration.
12. In panel discussion, group of 6–8 qualified experts discuss a topic in front of an audience.
13. In microteaching, student-teacher teaches a small group of **4–6 learners** for a length of **5–10 minutes**.
14. Learning that is carried out in the affective domain is Passive Learning.
15. Unit planning provides sound basis of Evaluation.
16. **Questions that require the respondents to make a choice between more than two responses called Multiple Choice Questions.**
17. The best method to teach a patient any skills, such as using spirometry, is done by Demonstration.
18. Health education by a nurse to a group of people can be termed as Small Group Communication.
19. Learning that is carried out in the affective domain is called Passive Learning.
20. **Summative evaluation:** The type of assessment where the outcome is evaluated at the end of academic years.
21. **Formative evaluation:** The type of assessment where the outcome is evaluated frequently throughout the year.
22. **Criterion referenced assessment evaluates students against** pretest standard for acceptable achievement. Example: Driving test.
23. **Program evaluation:** The systematic assessment of the operation and or outcomes of a program or policy, compared to set.
24. Behavioral objectives model is also referred to as product model.
25. **Teacher: Student** ratio recommended by Indian Nursing Council is **1:10**.
26. **The four Cs of Curriculum are:** Cooperative, Continuous, Comprehensive and Concrete.

Nursing Knowledge Tree
An Initiative by CBS Nursing Division



- **Wheel communication:** Communication always happens through the leader.
- **Circle communication:** In this communication, one employee communicates to other employees who all are near to them.
- **All channel communication:** In this type of communication, information flows from all members of the health care team. It is also known as free flow communication.

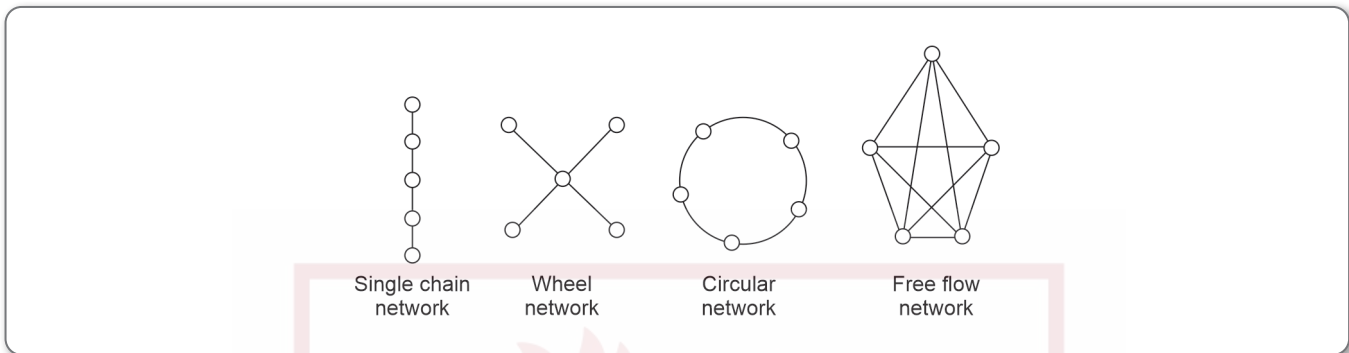


Figure 15: Networks of communication

Barriers to Communication (Fig. 16)

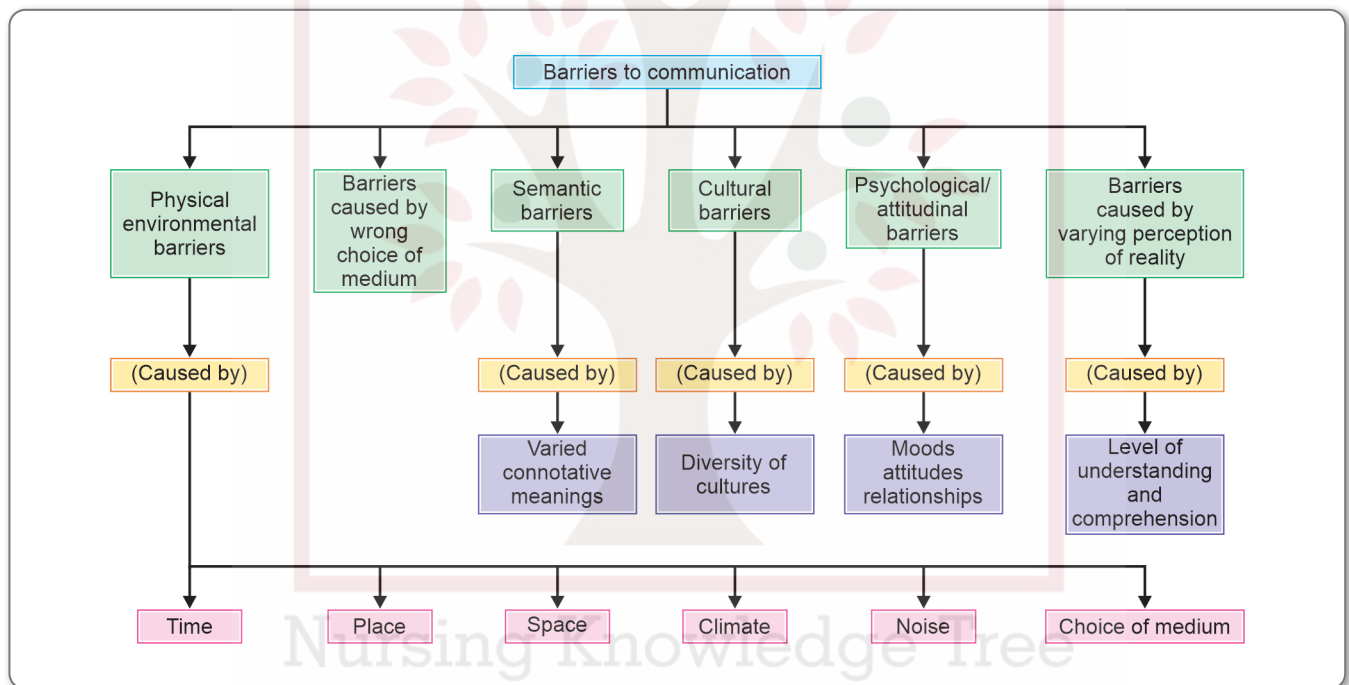


Figure 16: Barriers to communication

Leadership

It is the ability to influence people towards attainment of goal – Daft

Theories of Leadership

- **Great man theory:** As per theory, leaders are born, not developed. Leadership is an inborn quality.
- **Contingency theory:** According to this, leader's role depends upon three situations which are — (1) Leader-member relation, (2) Task structure and (3) Position power.
 - **Leader-member** relation means the faith and loyalty that group members possess toward the leader.

- **Task structure** is said to be high if it is easy to define and measure a task in terms of goal clarity, extent to which the decision can be verified, multiplicity of goal path and specificity of solution. If not, then task structure is low.
- **Position power:** It means the power which they are obtaining by sitting in a specified position or a chair.
- **Situational leadership:** Different situations need different styles of leadership. Leadership style and decision-making style will vary from situation to situation.
- **Transformational leadership:** It is also known as relationship theory. It focuses upon the relationship between leader and followers. According to this theory, leader is someone who encourages and inspires his followers to do task in a better manner.



207. Which of the following occupation accounts for the highest percentage of workers in the national health services?
- Doctors
 - Nurses
 - Technical staff
 - Ambulance staff
208. Increased life expectancy is closely associated with:
- Reduction in exercise
 - Reduced spending on pharma research
 - Increased per capita health spending
 - Reduced Gross enrollment ratio
209. National Health Policy, 2017 aims to increase public health expenditure to:
- 2.5% of the GDP by 2025
 - 5% of the GDP by 2025
 - 2.5% of the GDP by 2030
 - 2.5% of the GDP by 2020
210. In Budget 2021, India's public expenditure on healthcare stood at:
- 1.2% of GDP
 - 2.4% of GDP
 - 3.2% of GDP
 - 4.1% of GDP
211. Out of Pocket Expenditures (OOPE) are expenditures directly made by households at the point of receiving health care. The OOPE on health is highest in:
- Tamil Nadu
 - Kerala
 - Gujarat
 - Uttar Pradesh
212. Per capita total health expenditure is maximum in:
- Tamil Nadu
 - Kerala
 - Maharashtra
 - Gujarat

Source: NHA, 2016-17

RECORD KEEPING/DOCUMENTATION

213. Hospital has to keep MLC record up to:
- One year
 - Five years
 - Ten years
 - Fifteen years
214. Which of following rate is applied to calculate "The total number of deaths occurring in a hospital after 48 hours of admission for a period (divided by) total number of discharges including death (minus) death under 48 hours for the same period in a hospital multiplied by 100"?
- G.D.R.
 - N.D.R.
 - T.B.O.R
 - O.R.
- Explanation:** NDR: Net Death Rate (institutional death rate) The ratio of the total number of deaths occurring in the hospital, 48 hours or more after admission, for a period to the total number of discharges and deaths, 48 hours and over, for that period.
The formula for figuring the percentage is:
GDR (Gross death rate or hospital death rate) The proportion of inpatient hospitalizations that end in death, usually expressed as percentage.
215. A written record related to total number of patients' in hospital on daily basis is called:
- Census
 - Anecdotes
 - Patient attendance record
 - OPD record
216. The department that is responsible for maintaining copies of all records related to patient is:
- Information System Department
 - Medical Record Department
 - Nursing Information system department
 - Department of Hospital Information System
217. The major purpose of Hospital Information System (HIS) is to achieve the best possible support of patient care and administration by:
- Use of information technology
 - Personal health record
 - Nursing process
 - Electronic data processing
218. Which of the following is considered as traditional charting method in documenting nursing care?
- Narrative format
 - Focus format
 - SOAP
 - SOAPIE
- Explanation:** Narrative format is considered as traditional and most familiar charting method of documenting nursing care. It is a diary or story format written in chronological order. It is used to document the patient's status, care, events, treatments and patient's response.
219. A charting method that is not limited to clinical problems and may include a client's concern or behavior is known as
- Narrative format
 - Focus format
 - Charting by Exception
 - SOAP
220. Documentation system in which only significant findings or exceptions to the norms are recorded is known as:
- SOAP
 - SOAPIE
 - Focus format
 - Charting by Exception
221. A document that provides a detailed, written account of the chain of events leading up to and following an unforeseen circumstance in a healthcare setting is referred as:
- Spot report
 - Incident report
 - Nursing care plan
 - Activity report
222. All of the following are the purpose of incident reporting; except:
- To determine possible cause of the incident
 - To document any actions taken
 - To make it known to stakeholders
 - To solve the issue within the local setting
- Explanation:** The purpose of incident reporting is to record an incident, determine its possible cause, document any actions taken, and make it known to stakeholders. An incident report can be used in the investigation and analysis of an event. It includes the root cause and corrective actions to eliminate the risks involved and prevent similar future occurrences. To solve the issue within local setting is not the purpose rather the report is communicated to administration/authority for further correction measures.
223. All of the following are types of standing order; except:
- Instructional standing order
 - Institutional standing order
 - General standing order
 - Specific standing order



Ans.

207. b
208. c
209. a
210. a
211. d
212. b
213. c
214. b
215. a
216. b
217. b
218. a
219. b
220. d
221. b
222. d
223. a





Instruments	Purpose	Pictures of the instrument
Tongue depressor	To examine the oral cavity, by suppressing the tongue	
Laryngoscope	To visualize larynx	
Nasal speculum	To examine the nasal cavity	
Percussion hammer	To check the reflexes	



TABLE 16: Main causes of anemia

Decreased production of healthy RBCs	Increased RBC destruction	Blood loss
<ul style="list-style-type: none"> Folic acid deficiency Vitamin B12 deficiency Iron deficiency Thalassemia Aplastic anemia Anemia in chronic condition such as renal failure 	<ul style="list-style-type: none"> Sickle cell anemia G6PD deficiency 	<ul style="list-style-type: none"> Trauma Blood vessel rupture

- **Manifestations:** Dyspnea, palpitation and diaphoresis are the major clinical manifestations.
- **Management**
 - Iron supplement, nutritional supplements
 - Control hemorrhage
 - Splenectomy
 - Removal of toxic agents
 - Bone marrow transplantation
 - Corticosteroid therapy
 - Immunosuppressive therapy

Iron Deficiency Anemia

- Lack of iron resulting in inadequate hemoglobin storage in RBC and thus it affects oxygen carrying capacity.
- RBCs are microcytic hypochromic in this condition.
- Blood loss is the most common etiological factor.
- **Manifestations:** Fatigue, dyspnea, palpitation, diaphoresis, headache, pallor in face, hands, nail bed and mucus membrane.
- **Foods rich in iron:** Almond, beans, carrot, cauliflower, egg yolk, spinach, soybean, whole wheat, beef, cabbage, cucumber, mushroom, orange, peanut, peas, potato, pineapple, tomato.
- Iron supplements have to be taken with or after food.
- **Vitamin C increases the absorption of iron.**
- Side effects of iron therapy include constipation, nausea and vomiting, dark tarry stool.

Megaloblastic Anemia

- It occurs because of defective DNA synthesis which results in abnormally large RBC.
- **Causes:** Vitamin B12 deficiency and folic acid deficiency is the reason.

Vitamin B12 Deficiency/Cobalamine Deficiency/ Pernicious Anemia

- Due to deficiency of intrinsic factor in gastric juice which affects absorption of vitamin B12.
- **Diagnosis:** Schilling test is the confirmatory laboratory test:
 - **Schilling test:** It measures the absorption of orally administered radioactive vitamin B12 before and after parenteral administration of intrinsic factor.
- Client with pernicious anemia need **lifelong supplement of vitamin B12.**

Folic Acid Deficiency Anemia

- Folic acid deficiency occurs due to lack of food items which contain folic acid (green leafy vegetables, citrus fruit, liver, grain and yeast).
- FA deficiency is common with chronic alcoholic client, client on hemodialysis and client with malabsorption syndrome such as celiac disease, and steatorrhea.
- **Diagnosis:** Blood smear and bone marrow examination.
- **Serum folate level appear low (normal 7–20 ng/mL).**
- **Treatment:** Folic acid supplement.

Hemolytic Anemia

- Premature destruction of RBC due to hereditary disorders or hemolytic conditions (e.g., Malaria, drug-induced, hemolysis).
- Bone marrow fails to replace RBC at the rate of their destruction.
- **Extrinsic hemolysis (most common):** Hemolysis due to toxin, mechanical injury, etc.
- **Intrinsic hemolysis:** Damage to RBC itself. For example, Sickle cell anemia, G6PD deficiency, etc.
- Intravascular hemolysis occurs in the circulation itself.
- **Extravascular hemolysis** occurs in liver and spleen.
- **Manifestations:** Hemochromatosis (bronze skin tone), hemoglobinuria (dark urine), jaundice, hepatomegaly, splenomegaly, renal failure (due to increased work load with RBC break down product).
- **Treatment:** Treat the underlying cause of hemolysis.

Sickle Cell Anemia

- It is an autosomal recessive condition.
- Sickle hemoglobin gene is inherited.
- When sickle hemoglobin is exposed to low oxygen concentration, RBC loses its normal shape and property and becomes sickle in shape.
- Sickle RBC adhere together in small blood vessels and obstruct the blood flow to organ and cause ischemia or infarction.
- Cold can aggravate the condition.
- **Manifestations: Enlargement of the facial and skull bones,** tachycardia, cardiac murmur, pain, swelling and fever.
- **Sickle cell crisis:** Three types of crisis are there. They are vaso-occlusive crisis, aplastic crisis, sequestration crisis.
- **Vaso-occlusive crisis:** Entrapment of RBC and WBC in micro blood vessel leading to lack of perfusion to an organ which causes tissue hypoxia and necrosis. Good hydration is the management.
- **Aplastic crisis:** Fall in hemoglobin and decreased production of RBCs, as bone marrow is not able to produce RBC.
- **Sequestration crisis:** When other organ pooled with sickle cell. In children - most commonly spleen is affected. In adult - liver and lungs are affected.
- **Acute chest syndrome:** Sickling of small blood vessels in the lung causes acute chest syndrome, characterized by fever, cough and respiratory distress.
- **Diagnosis:**
 - Low hematocrit and sickled cells on smear.
 - Hemoglobin electrophoresis is the diagnostic method.



Procedure	Description
Bilateral pelvic lymphadenectomy	Removal of lymphatic vessels and nodes.
Pelvic exenteration	Removal of pelvic organ including bladder, rectum, and pelvic lymph nodes and construction of diversional conduit, colostomy and vagina.
Radical trachelectomy	Removal of cervix and selected lymph nodes to preserve child bearing capacity of the women.

Cancer of Ovary

- These are the invasive tumors which originate in the ovary.
- Most common type is **epithelial ovarian cancer**.
- **Risk factors:** Early menarche, late menopause, family history, old age, obesity.
- **Clinical manifestations:** Increased abdominal girth, pelvic pressure, bloating, back pain, constipation, abdominal pain, urinary urgency, indigestion, flatulence, increased waist size, leg pain and pelvic pain.
- **Diagnosis:** MRI, transvaginal and pelvic ultrasound, chest X-ray, blood test for CA-125., abdominal CT with or without contrast.
- **Treatment:** Chemotherapy, radiation therapy and surgery.
- **Surgical management**
 - Bilateral salpingo-oophorectomy and omentectomy (removal of ovaries, fallopian tube and omentum).
 - Total abdominal hysterectomy.

Uterine Cancer (Endometrial Cancer)

- These are the tumors of endometrial mucosal lining of the uterus.
- **Risk factors:** Exposure to estrogen therapy, early menarche, late menopause, nulliparity, anovulation, family history, infertility, diabetes.
- **Clinical manifestations:** Abnormal bleeding, vaginal discharge, low back ache, pelvic pain, abdominal pain, enlarged uterus.
- Radiation therapy, chemotherapy and surgery are the treatment modalities.
- **Surgical management**
 - **Total hysterectomy:** Removal of uterus, cervix and ovaries.
 - **Radical hysterectomy:** Uterus, ovaries, fallopian tube, proximal vagina and bilateral lymph nodes are removed. It can be done via abdominal approach or via vaginal approach.
 - **Bilateral salpingo-oophorectomy:** Removal of the ovaries and fallopian tube.

Bladder Cancer

- **Risk factors:** Smoking, exposure to environmental **carcinogen (rubber, dye, leather, ink or paint)**, **recurrent UTI**, bladder stone, pelvic radiation therapy.
- **Metastasis to:** Liver, bone and lung.
- **Clinical manifestations:** Gross or microscopic painless hematuria (**most common sign**), frequency, urgency, dysuria.
- **Diagnosis:** Urine cytological studies, tumor marker analysis, Intravenous pyelogram (IVP), ultrasound, CT, MRI, bladder wash specimen and biopsy.

Management

- **Radiation therapy** is useful for decreasing the tumor size to relieve symptoms.
- **Chemotherapy:** Chemotherapeutic agents are instilled into bladder and then client's position is changed every 15–30 minutes. After 2 hours, client voids in sitting position.
 - Instruct the client to increase the fluid intake to clear the bladder.
 - The urine excreted by the patient is a bio-hazard.
- Transurethral resection of bladder tumor, partial cystectomy (removal of up to half of bladder).
- Cystectomy and urinary diversion is the other method of surgery. In this, complete removal of bladder and the creation of urinary diversion technique will be there.
 - **Ileal conduit (Bricker's procedure):** It is also known as ureteroileostomy. Ureters are attached to a portion of ileum and one part of the ileum is taken to the abdominal wall as stoma. Continuous leakage of urine will be there. Client has to wear any appliance over stoma.
 - **Kock pouch (continent ileostomy):** Part of ileum and ascending colon is used to create urinary pouch. Ureters are implanted on the side of pouch. It has nipple valve that helps the patient to be continent (unlike ileal conduit). Patient is to be educated about intermittent self-catheterization to empty the bladder.
 - **Indiana pouch:** Pouch is created using terminal ileum and ascending colon which provides a pouch with higher capacity than kock pouch.
 - **Neobladder:** Segment of intestine is used to create internal pouch and ureters are connected to the pouch. The reservoir is connected to urethra. So client can void via natural orifice by increasing abdominal pressure or by intermittent-self catheterization.
 - **Nephrostomy:** Stoma is created over kidney and urine is drained with the help of tube.
 - **Ureterostomy:** Ureters are brought over the abdomen to drain urine.
 - **Vesicostomy:** Stoma is created over bladder and urine is drained.

Prostate Cancer

- Most common type of cancer of prostate is adenocarcinoma.
- **Risk factors:** Increase in age, family history, excessive red meat and dairy products in diet, hormones such as androgen and estrogen.
- **Clinical manifestations**
 - Asymptomatic at early stages
 - Urinary obstruction in advanced stage (due to obstruction of bladder neck by prostate tumor)
 - Painful ejaculation, blood in urine and semen
 - Sexual dysfunction usually occurs before diagnosis is made.
- **Diagnosis:** Pea-sized, hard nodule is palpated on Digital Rectal Examination (DRE). Prostate Specific Antigen, Transrectal Ultrasound (TRUS) with biopsy. **Histological examination** is confirmatory test.
- **Gleason score** is the most commonly used tumor grading system.
- **Metastasis to:** Mainly bone, lungs, liver and kidney.



Disorders of Respiratory System

Acute Respiratory Distress Syndrome (ARDS)

- ARDS is a severe form of acute lung injury characterized by sudden and progressive pulmonary edema, hypoxemia unresponsive to oxygen supplementation, and the absence of an elevated left atrial pressure.
- ARDS occurs due to diffuse alveolar damage and lung capillary endothelial injury.
- **Signs and symptoms:** Tachycardia, tachypnea, increased BP, accessory muscle use for respiration, crepitus, diminished breath sounds, cyanosis, diaphoresis, bibasilar crackles, dyspnea, and hypoxia.
- **Management**
 - Mechanical ventilation may be necessary
 - Vasopressors and diuretics

Acute Respiratory Failure

- Respiratory failure is called when
 - $\text{PaO}_2 < 60$ mm Hg
 - $\text{PaCO}_2 > 50$ mm Hg
- **Signs and symptoms**
 - Absent breath sounds
 - Rhonchi, crackles, and wheezes
 - Yawning and use of accessory muscles for breathing.
- **Treatment:** Oxygen therapy, mechanical ventilation, bronchodilators

Bronchitis

- Bronchitis is an inflammation of the mucus membranes of the bronchi.
- Bronchitis can be divided into: Acute and Chronic
 - **Acute bronchitis** is characterized by the feeling of cough or small sensation in the back of the throat. Acute bronchitis is one of the **most common types of lung infection.**
 - **Chronic bronchitis** is a type of COPD, which involves a cough that produces sputum for 3 months for 2 consecutive years.
- **Causes:** Virus or bacteria; **viral bronchitis** is much more common.

Atelectasis

- A collapsed or airless state of the lung, which maybe acute or chronic and may involve all or part of the lung.
- **Management:** Bronchodilator and antibiotics are used for treatment.

Emphysema

- The abnormal presence of air in tissues or cavities of the body.
- **Pulmonary emphysema:** A chronic disease of the lungs. There is distension of the bronchioles and eventual loss of elasticity so that inspired air cannot be expired, making breathing difficult.
- **Surgical emphysema:** The presence of air or any other gas in the subcutaneous tissues, introduced through a wound.
- **Barrel-shaped chest** is usually seen in advanced emphysema.

Pleural Effusion

- Accumulation of fluid in the pleural space.

- Accumulation of blood is known as **hemothorax** and accumulation of air is known as **pneumothorax.**
- Chest tube insertion is the management.

Pulmonary Edema

- Excess of fluid in the lungs and alveoli
- **Causes:** Left-sided heart failure, mitral stenosis, ARDS, fluid overload, myocardial infarction, or pulmonary emboli.
- **Blood-tinged frothy sputum** is a characteristic feature of pulmonary edema.

Pulmonary Embolism (PE)

- Obstruction of pulmonary artery or its branches by thrombus, tumor, air or fat that originated elsewhere in the body.
- **Management:** Anticoagulation (heparin), warfarin

Lung Abscess

- Aspiration or entry of infectious material in the lung causes collection of purulent material in the lung parenchyma
- **Causes:** Aspiration, following pneumonia, chest trauma
- In a **bedridden patient**, lung abscess most commonly occurs in the **posterior segment of upper lobe and superior part of the lower lobe.**
- **Clinical manifestation:** Productive cough, foul smelling sputum, fever, weakness, weight loss.
- **Management:** Antibiotic therapy, chest physiotherapy and postural drainage, lobectomy is the surgery of choice.

Chest Injuries

Rib Fracture

- Most common type of chest injury which causes pneumothorax and pulmonary contusion.
- **Management:** Pain management, fowler's position to the client

Hemothorax

- Blood in the pleural space
- Chest tube insertion is the management

Flail Chest

- Occurs as a result of chest trauma. One portion of the chest loses its connection with remaining part of rib cage.
- **Paradoxical respiration** can be seen.
- **Management:** Fowler's position, oxygen administration, respiratory support if needed, pain management.

Pulmonary Contusion

- Leakage of blood and fluid into alveoli and interstitial space.
- **Clinical manifestation:** Decreased breath sound, dyspnea, hypoxemia, hemoptysis, restlessness.
- **Management:** Fowler's position, oxygen administration.

Pneumothorax

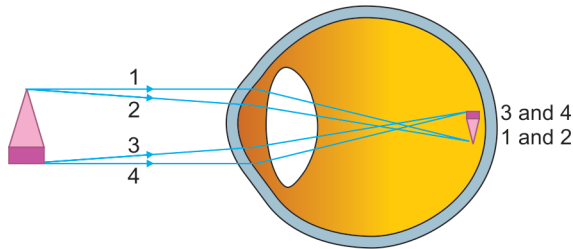
- Trapping of atmospheric air in the pleural space which leads to increased intra-thoracic pressure and decreased vital capacity.
- **Management:** Fowler's position, oxygen administration, chest tube insertion.



Image-Based Questions (Including All Topics)

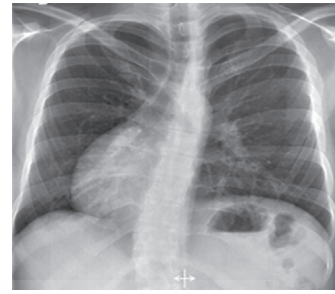
1. Identify the refractive error.

(Refer explanation at the end)



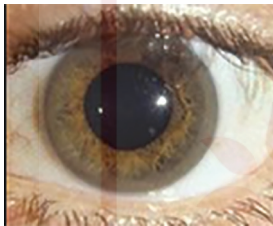
- a. Myopia
- b. Hypermetropia
- c. Presbyopia
- d. Astigmatism

5. The following CXR shows:



- a. Dextrocardia
- b. Pneumothorax
- c. Pneumomediastinum
- d. Pulmonary hamartoma

2. Identify the pathology depicted in the given image.



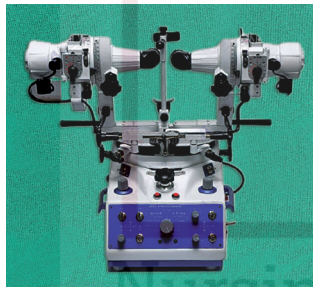
- a. Corneal ulcer
- b. Aniridia
- c. Circumcorneal congestion
- d. Kayser-Fleischer ring

6. ECG given below is of:



- a. Atrial fibrillation
- b. Atrial flutter
- c. Sinus tachycardia
- d. PSVT

3. Identify the instrument depicted in the image.



- a. Tonometer
- b. Perimeter
- c. Operating microscope
- d. Synoptophore

7. Radio image shows technique of:



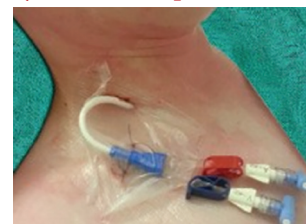
- a. Barium meal follow through
- b. Enteroclysis
- c. Barium enema
- d. Fluoroscopy

4. Identify the instrument given in the image.



- a. Tonometer
- b. Pachymeter
- c. Keratometer
- d. Ophthalmometer

8. A patient of ESRD is being performed hemodialysis. Central dialysis catheter is placed at which site?



- a. Right internal jugular vein
- b. Left internal jugular vein
- c. Right subclavian vein
- d. Right subclavian artery



Ans.

- 1. a
- 2. d
- 3. d
- 4. a
- 5. a
- 6. a
- 7. a
- 8. a



MULTIPLE CHOICE QUESTIONS

(Including Explained and Practice Questions)

CARDIOVASCULAR SYSTEM

ANATOMY OF HEART

1. Specialized cardiac muscles are present in layer of the heart.

- a. Epicardium
- b. Myocardium
- c. Endocardium
- d. Pericardium

2. Posterior surface of heart is formed by:

- a. RA
- b. LA
- c. LV
- d. RV

Explanation: Posterior surface of the heart and base of the heart is formed by left atrium.

3. Coronary sinus opens into:

- a. Inferior vena cava
- b. Right atrium
- c. Left atrium
- d. Great cardiac vein

4. What is the normal amount of pericardial fluid?

- a. 5–10 ml
- b. 20–50 ml
- c. 50–100 ml
- d. 100–200 ml

5. The heart valves are lined by layer of the heart.

- a. Epicardium
- b. Myocardium
- c. Endocardium
- d. Pericardium

6. Valve between left atrium and left ventricle is:

- a. Bicuspid valve
- b. Tricuspid valve
- c. Tetracuspid valve
- d. Monocuspid valve

Explanation:

- Valve between left atrium and left ventricle is bicuspid valve which is also known as mitral valve.
- Valve between right atrium and right ventricle is tricuspid valve.
- Valve located between pulmonary artery and right ventricle is semilunar valve.
- Valve located between aorta and left ventricle is also known as semi-lunar valve.

7. Valve responsible for murmurs which auscultates at the second left intercostal space along the left sternal border is:

- a. Aortic
- b. Bicuspid
- c. Pulmonic
- d. Tricuspid

8. The closure of the aortic valve in the arterial waveform is denoted by:

- a. Anaerobic notch
- b. Dicrotic notch
- c. Systolic notch
- d. End diastolic point

9. The arteries that supply the heart muscles are branches of the:

- a. Abdominal aorta
- b. Thoracic aorta
- c. Aortic arch
- d. Ascending aorta

10. “Potential anastomosis” seen in:

- a. Labial branch of facial artery
- b. Intercostal artery
- c. Coronary artery
- d. Arterial arcades of mesentery

11. Identify the artery that carries deoxygenated blood

- a. Umbilical artery
- b. Pulmonary artery
- c. Both a and b
- d. Carotid artery

12. Blood supply to the heart is maintained by:

- a. Pulmonary
- b. Coronary
- c. Aorta
- d. Myocardial

13. Posterior communicating artery is branch of:

- a. Internal carotid artery
- b. External carotid artery
- c. Middle cerebral artery
- d. Posterior cerebral artery

14. Right coronary artery supplies all, except:

- a. Apex of heart
- b. Intraventricular septum
- c. Inter atrial septum
- d. SA node

15. Pacemaker of heart is:

- a. AV node
- b. SA node
- c. Purkinje fibers
- d. Parasympathetic system

(JIPMER 2012)

Explanation: Pacemaker of the heart is SA node. It is located in the wall of the right atrium.

16. Slowest conduction is in:

- a. SA node
- b. Purkinje fibers
- c. AV node
- d. Bundle of His

17. Distention and recoil of blood vessel during systole and diastole is achieved through the property of blood vessel.

- a. Peripheral vascular resistance
- b. Elasticity
- c. Diameter
- d. Smooth muscle contraction

18. Vasoconstriction leading to increased blood pressure is triggered by the following situation:

- a. Stimulation of the parasympathetic nerve supply.
- b. Stimulation of the cardioinhibitory center in the medulla.
- c. Increased levels of angiotensin II in the blood.
- d. Increased level of carbon dioxide in the blood.

19. Baroreceptors help in:

- a. Stimulating respiration
- b. Stimulating sweating
- c. Maintaining BP
- d. Stimulating thirst

20. Arterial supply to SA node is by:

- a. Left anterior descending coronary artery
- b. Posterior interventricular (descending) artery
- c. Left coronary artery
- d. Right coronary artery



Ans.

- 1. b
- 2. b
- 3. b
- 4. b
- 5. c
- 6. a
- 7. c
- 8. b
- 9. d
- 10. c
- 11. c
- 12. b
- 13. a
- 14. a
- 15. b
- 16. b
- 17. b
- 18. c
- 19. c
- 20. d

Benign tumors	Malignant tumor
Shape, chromosomes, and DNA of cells appear normal	Cells have abnormal chromosomes and DNA characterized by large, dark nuclei; may have abnormal shape
Do not secrete hormones or other substances (except pheochromocytomas)	Can secrete substances that cause fatigue and weight loss (paraneoplastic syndrome)

- 741. Benign tumor of fat is:**
- Primitive cell tumor
 - Myoma
 - Lymphoma
 - Lipoma
- 742. Spread of malignant cells from one part to other part of the body is known as:**
- Invasion
 - Spreading
 - Metastasis
 - Seeding
- 743. UV rays commonly damages:**
- Heart
 - Liver
 - Pancreas
 - Skin
- 744. The tumor of the hyaline cartilage is called**
(AIIMS Raipur Grade-II)
- Osteochondroma
 - Osteosarcoma
 - Enchondroma
 - Chondrosarcoma

Explanation: An enchondroma is a type of non-cancerous bone tumor that begins in cartilage. Osteochondroma is an overgrowth of cartilage and bone that happens at the end of the bone near the growth plate. Osteosarcoma (OS) or osteogenic sarcoma (OGS) is a cancerous tumor that arises from primitive transformed cells of mesenchymal origin which exhibits osteoblastic differentiation and produces malignant osteoid. Chondrosarcoma is a cancer composed of cells derived from transformed cells that produce cartilage

- 745. The severe weight loss accompanied by progressive weakness, loss of appetite and anemia that is usually associated with advanced cancer is called:**
(AIIMS Raipur Grade II 2017)
- Carcinomatosis
 - Cachexia
 - Anaplasia
 - Dysplasia

Explanation: Cachexia is loss of weight, muscle atrophy, fatigue, weakness and significant loss of appetite in someone who is not actively trying to lose weight. Carcinomatosis is a condition in which cancer is widespread in the body. Anaplasia is a condition of cells with poor cellular differentiation. Dysplasia is an abnormality of development or epithelial anomaly of growth and differentiation.

- 746. Identify the feature of benign tumor among the following:**
- They are invasive and destructive
 - Their constituent cells shows anaplasia
 - They are usually well circumscribed
 - They are usually not encapsulated
- 747. Most common route of initial metastasis for carcinomas is:**
- Direct invasion
 - Lymphatic spread
 - Hematogenous spread
 - None of these

SCREENING TESTS FOR CANCER

- 748. Taking out a small piece of tissue for diagnostic purpose is known as:**
- Biopsy
 - Dissection
 - Reconstruction
 - Extraction
- 749. Which among the following is diagnosed based on Reed Sternberg cell type?**
(AIIMS Bhopal Grade-I 2018)
- Hodgkin's disease
 - Non-Hodgkin's disease
 - Nephroblastoma
 - Hepatoblastoma

Explanation: Reed Sternberg cells are large, abnormal lymphocytes that may contain more than one nucleus and are essential to the diagnosis of Hodgkin's lymphoma

- 750. In patients with colorectal cancer serum CEA level is clinically useful for all of the following reasons; except:**
- Prognosis
 - Detection of recurrence
 - Guiding treatment response
 - Early diagnosis
- 751. Which among the following parameter shows abnormal value in the lab test in a person recently diagnosed with multiple myeloma?**
- Immunoglobulin
 - Electrolytes
 - White Blood Cells (WBCs)
 - All of these

COMMON CANCER TREATMENT MODALITIES

- 752. Match the following regarding types of cancer treatment:**
- | | |
|-----------------------------|--|
| I. Primary treatment | A. Treatment as a first step to shrink a tumor before main treatment |
| II. Adjuvant treatment | B. Aimed at relief of symptoms, and improve quality of life |
| III. Neo-adjuvant treatment | C. Radiation therapy is the main treatment |
| IV. Palliative treatment | D. Surgery followed by chemo- or radiotherapy to prevent recurrence |
- | | | | | |
|----|---|----|-----|----|
| | I | II | III | IV |
| a. | C | D | A | B |
| b. | C | A | B | D |
| c. | D | C | B | A |
| d. | A | B | C | D |

Explanation:

- Primary treatment:** When radiation is the main treatment for the cancer
- Adjuvant treatment:** Surgery followed by chemo or radiotherapy to help decrease the risk of the cancer recurring
- Neo-adjuvant treatment:** Treatment given as a first step to shrink a tumor before the main treatment
- Palliative treatment:** Designed to relieve symptoms, and improve the quality of life



Ans.

741. d
742. c
743. d
744. c
745. b
746. c
747. b
748. a
749. a
750. d
751. d
752. a

Explanation: Client will be in semi-sitting position, so, drainage would go to the back of the neck. So, the right method to assess bleeding is to place a hand under the client's neck and shoulders to feel bed linens. Blood trickling down the throat is seen in patients with tonsillectomy.

1940. A patient who has just had a thyroidectomy returns to the unit in a stable condition. Which of the following equipment is important for the nurse to have readily available?

- a. Dressing set b. Thoracotomy tray
c. Tracheostomy set d. Ice collar

Explanation: Thyroidectomy is subject to complications in the first 48 hours after surgery. Inflammation of operative site may cause airway obstruction. The nurse should have a tracheostomy set and oxygen at the bedside for 48 hours after thyroidectomy.

1941. During early post-operative period after thyroidectomy, which of the following findings is a cause of concern?

- a. A sore throat
b. Complaints of pain in the area of the surgical incision
c. Carpal spasm when the blood pressure is taken
d. Temperature of 101°F

Explanation: Carpal spasm is a sign of tetany and is known as Trousseau sign. Trousseau sign of latent tetany is a medical sign observed in patients with low calcium. Inadvertent removal of parathyroid glands causes hypocalcemia which leads to tetany.

1942. After thyroid surgery thyroidectomy, patient shows carpopedal spasm. This sign indicates: (Banaras HU 2015)

- a. Severe post-operative bleeding
b. Very low thyroid hormone levels
c. Decreased metabolism and hypothermia
d. Hypocalcemic tetany

1943. Which of the following is associated with hypercalcemia?

- a. Tetany b. Urinary calculi
c. Petechiae d. T wave inversion in ECG

1944. Which of the following is caused by hypoparathyroidism?

- a. High serum calcium
b. Low serum calcium
c. High serum potassium
d. Low serum potassium

Explanation: Hypoparathyroidism is a condition characterized by decreased blood levels of parathyroid hormone. Parathyroid along with vitamin D and dietary phosphorous regulates calcium level in the body. Decreased parathyroid hormone leads to hypocalcemia (low calcium).

1945. Secretion of parathyroid hormone is stimulated by:

(Kerala PSC, Nov 2014)

- a. Hypokalemia b. Hypercalcemia
c. Hyperkalemia d. Hypocalcemia

1946. The causes of hypoparathyroidism include:

(AIIMS Raipur Grade II 2017)

- A. Damage of glands during thyroidectomy
B. Congenital anomaly of the gland
C. Fractured base of skull
D. Development of antibodies to parathyroid cells
a. A, B, C b. B, C, D
c. A, B, D d. A, B, C, D

Explanation: The causes of hypoparathyroidism include injury to or removal of parathyroid glands, DiGeorge syndrome, genetics, autoimmune diseases, cancer radiation treatments and low magnesium levels.

1947. Which of the following hormone antagonize the action of parathyroid hormone?

- a. Insulin b. Glucagon
c. Calcitonin d. Triiodothyronine

1948. Which meal plan is best for the patient with reactive hypoglycemia? (Kerala PSC, Nov 2014)

- a. Avoidance of fats and proteins
b. Small frequent meals
c. Low fiber, high carbohydrate diet
d. Avoid fats, complex carbohydrates and proteins

1949. Glipizide, an oral hypoglycemic agent, should be administered:

- a. With breakfast b. Before lunch
c. After dinner d. At bed time

1950. World diabetes day is celebrated on: (Safdarjung NO 2018)

- a. 14th September b. 14th August
c. 14th November d. 24th January

Explanation: World diabetes day is celebrated on 14 November. It is observed by International Diabetes Federation to create awareness about rising threats from diabetes.

Tips to Remember: Children's day and Diabetes day are on 14th November.

1951. The most rapid absorption of insulin occurs in:

(Safdarjung NO 2018)

- a. Abdomen b. Arms
c. Thigh d. Buttocks

Explanation: The most rapid absorption of insulin occurs through abdomen. More subcutaneous tissues are present in abdomen area than arms, thighs and buttocks for better absorption of insulin.

1952. Other name for type-I diabetes mellitus (DM) is:

- a. Juvenile diabetes
b. Adult onset diabetes mellitus
c. Gestational diabetes
d. DM with infection

Explanation:

- Type 1 diabetes mellitus is known as juvenile diabetes. Type 2 diabetes mellitus is known as adult onset diabetes mellitus.
- In type one diabetes mellitus, there is damage to beta cells.
- Type 2 diabetes mellitus is characterized by resistance of the cells to insulin.

1953. The complaint of insulin secretion is noticed in:

(DSSSB PHN, 2015)

- a. Type I diabetes b. Type II diabetes
c. Secondary diabetes d. Diabetes insipidus

1954. While preparing a patient for surgery who has diabetes mellitus, the nurse should be aware of which of the following potential surgical risks associated with this disease? (AIIMS Bhopal Grade-I 2018)

- a. Altered metabolism and excretion of drugs
b. Fluid and electrolyte imbalance
c. Respiratory depression from anesthesia
d. Poor wound healing



Ans.

1940. c
1941. c
1942. d
1943. b
1944. b
1945. d
1946. c
1947. c
1948. b
1949. a
1950. c
1951. a
1952. a
1953. a
1954. d

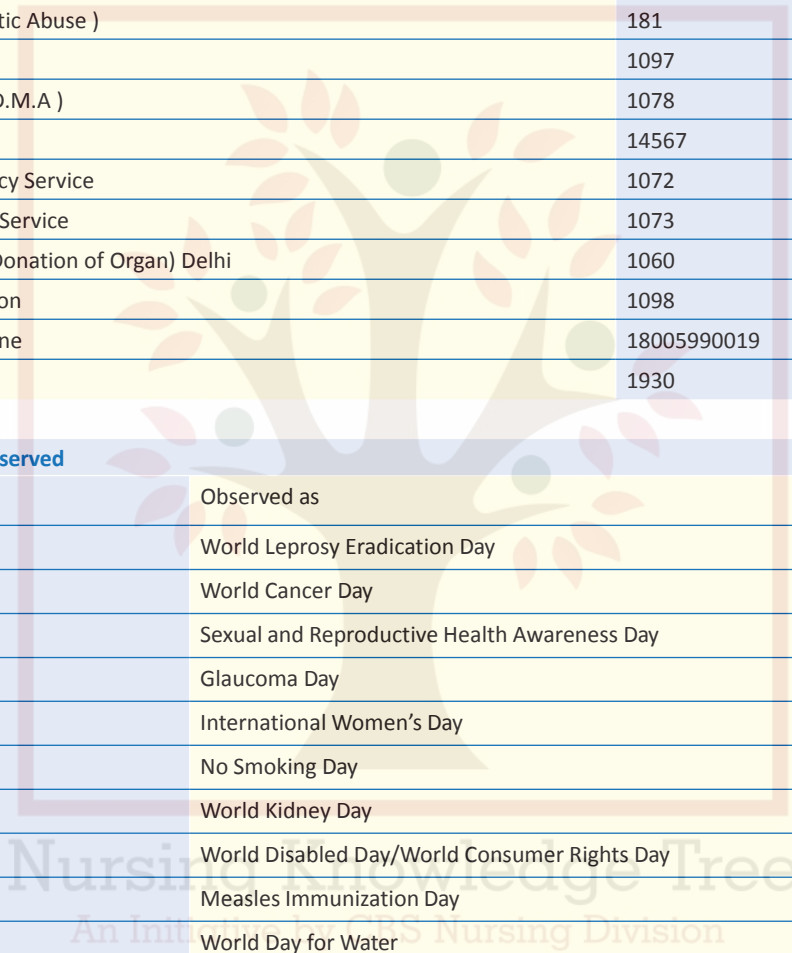
Important National Helpline Numbers

National Emergency Number	112
Police	100
Fire	101
Ambulance	102
Disaster Management Services	108
Medical Helpline in Andhra Pradesh, Gujarat, Uttarakhand, Goa, Tamil Nadu, Rajasthan, Karnataka, Assam, Meghalaya, M.P and U.P	108
Women Helpline	1091
Women Helpline - (Domestic Abuse)	181
AIDS Helpline	1097
Disaster Management (N.D.M.A)	1078
Senior Citizen Helpline	14567
Railway Accident Emergency Service	1072
Road Accident Emergency Service	1073
ORBO Centre, AIIMS (For Donation of Organ) Delhi	1060
Children In Difficult Situation	1098
Kiran Mental Health Helpline	18005990019
Cyber Crime Helpline	1930

Important Health Days Observed

Month	Date	Observed as
Jan	30	World Leprosy Eradication Day
Feb	4	World Cancer Day
	12	Sexual and Reproductive Health Awareness Day
March	6	Glaucoma Day
	8	International Women's Day
	11	No Smoking Day
	12	World Kidney Day
	15	World Disabled Day/World Consumer Rights Day
	16	Measles Immunization Day
	22	World Day for Water
	24	World TB Day
April	7	World Health Day
	17	World Hemophilia Day
	19	World Liver Day
	22	Earth Day
	25	World Malaria Day
May	6	World Asthma Day
	8	World Red Cross Day

Contd...



Kangaroo Mother Care (KMC) Procedure (Fig. 3)

Positioning

- Place the baby between mother's breast in upright position
- Head turned to one side and slightly extended
- Hip flexed and abducted in frog position
- Baby's abdomen in mother's epigastrium
- Support baby's bottom



Figure 3: Kangaroo mother care

Purpose

- It is very useful for low birth weight babies.
- It helps them to gain weight, increase feeding, reduce incidence of infection and respiratory complications.
- It promotes breastfeeding and mother-baby bonding.

HIGH RISK NEWBORN

Low Birth Weight

Birth weight less than 2500 g is known as low birth weight (Table 10).

TABLE 10: Classification of birth weight

Classification	Birth Weight
Low birth weight	<2500 g
Very low birth weight	<1500 g
Extremely low birth weight	<1000 g

Prematurity

- A neonate born before 37 weeks of complete gestation is known as premature neonate.
- Difference between term and pre-term baby is discussed in detail in OBG chapter.



Key Points

- KMC can be done by any family member who is free from infection.
- Each session should last for at least one hour.
- Newborns lose 10% of their birth weight by 3–4 days of age. Newborns gain the lost birth weight by 10th day of life.

- Normal birth weight of an Indian child is 2.5–3.5 kg.
- Baby's birth weight doubles at 5–6 months of age.
- Baby's birth weight triples at 1 year of age.
- LBW babies showing rapid catch up growth in infancy are at increased risk for developing coronary heart disease and hypertension in adult life and is known as **adult metabolic syndrome**.

NEWBORN RESUSCITATION

Technique of Chest Compression

- **Thumb technique:** Two thumbs depress the sternum while hands encircle the torso.
- **Two finger techniques:** Tips of middle finger and index finger of one hand are used to compress the sternum while the other hand is used to support the baby's back.
- Thumb technique is preferred because it is less tiring and generates high peak systolic pressure and coronary perfusion pressure.
- Two finger technique is preferred to provide access to umbilicus for medication administration.

Site and Depth of Compression

- Compression provided at lower third of the sternum to a depth of one third of the antero-posterior diameter.
- The site lies between the xiphoid and a line drawn between the nipples.

Rate of Compression

- 3:1 is the ratio between chest compression and breaths irrespective of the number of rescuers.
- One cycle consists of 3 compressions and one breath will take 2 seconds to complete.
- Total of 120 events (90 compressions and 30 breaths) per minute should be given.

Epinephrine

- Available concentration is 1:1000.
- Dilute 1 mL of epinephrine with 9 mL of water for injection then volume is 10 mL and concentration is 1:10,000.

Note

While providing PPV appropriate squeezing of bag will provide 40–60 breaths per minute.



Key Points

- Immediate action by the nurse after the birth of a baby is to clear the mucus in nose and mouth that will help the baby to breathe.
- Lack of stridor and adventitious breath sounds are the signs of shaken baby syndrome.
- Total lung capacity in full term newborn is **150 mL**.

Contd...



B

SECTION

Previous Year Papers



1. AIIMS Mangalagiri Tutor/Clinical Instructor, August 2022
2. AIIMS Mangalagiri (Lecturer) 2022
3. AIIMS Mangalagiri (Professor cum Principal) 2022
4. RAK MSc Nursing 2022
5. Chhattisgarh MSc Nursing 2022 (Recall)
6. AIIMS MSc Nursing 2022
7. West Bengal University of Health Sciences MSc Nursing 2022
8. West Bengal University of Health Sciences MSc Nursing 2021
9. Rajasthan University of Health Sciences MSc Nursing 2021
10. North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences MSc Nursing 2021
11. Hemwati Nandan Bahuguna Uttarakhand Medical Education University MSc Nursing 2021
12. Rajasthan University of Health Sciences MSc Nursing 2019
13. Rajasthan University of Health Sciences MSc Nursing 2018
14. RAK MSc Nursing 2018 *(In App)*
15. Rajasthan University of Health Sciences MSc Nursing 2017 *(In App)*
16. RAK MSc Nursing 2017 *(In App)*
17. Rajasthan University of Health Sciences MSc Nursing 2016 *(In App)*
18. Rajasthan University of Health Sciences MSc Nursing 2015 *(In App)*
19. Rajasthan University of Health Sciences MSc Nursing 2014 *(In App)*

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"Ill-health of body or of mind, is defeat. Health alone is victory."

—Thomas Carlyle



AIIMS MANGALAGIRI (LECTURER) 2022

1. National Nutritional week is celebrated from:

- a. 7th to 13th March
- b. 3rd to 9th April
- c. 1st to 7th August
- d. 1st to 7th September

2. A Leadership style in which the leader participates as a facilitator, encouraging group discussions and decision making with the subordinates is called:

- a. Autocratic
- b. Democratic
- c. Laissezfaire
- d. Participative

3. A written document plan that identifies the major elements of the study, such as problem, purpose, framework and outline the methods to conduct the study is known as:

- a. Research report
- b. Research article
- c. Research proposal
- d. Research review

4. The planned, guided adjustment of an employee to the organization and work environment is called:

- a. Retention
- b. Indoctrination
- c. Attrition
- d. Probation

5. Which of the following cutaneous manifestation indicates bleeding into the skin?

- a. Urticaria
- b. Chancre
- c. Purpura
- d. Caféaulait spots

6. The process which examines student responses to individual test questions in order to assess the quality of the test is known as _____.

- a. Scalogram
- b. Critical Incident technique
- c. Sociometry
- d. Item analysis

7. A method of patient assignment in which a single nurse will provide complete nursing care to the patient throughout her shift in order to promote continuity of care is called:

- a. Functional method
- b. Case method
- c. Team nursing
- d. Primary nursing

8. Which of the following is the drug of choice for Mania?

- a. Valproic acid
- b. Alprazolam
- c. Lithium
- d. Risperidone

9. What is the common complication of Hirschsprung's disease?

- a. Enterocolitis
- b. Ulcerative colitis
- c. Volvulus
- d. Intussusception

10. A type of bias in the performance appraisal in which the appraiser over emphasizes a positive event and overrates the total performance of an employee is termed as:

- a. Halo effect
- b. Central tendency error
- c. Self-aggrandizing effect
- d. Recency error

11. Which of the following statement is NOT true about Microteaching?

- a. Is a scale down teaching
- b. The duration will be 45 minutes
- c. Focus is on the refinement of one particular skill
- d. The session will be video recorded

12. Inability of a person to perform a previously learned action is termed as:

- a. Agnosia
- b. Aphasia
- c. Ataxia
- d. Apraxia

13. An Inventory control technique which is focusing on the degree of criticality of the items is called:

- a. ABC Analysis
- b. VED Analysis
- c. FSN Analysis
- d. SDE Analysis

14. Absent or ineffective peristalsis of the distal esophagus accompanied by the failure of esophageal sphincter to relax in response to swallowing is called:

- a. Barret's esophagus
- b. Achalasia
- c. GERD
- d. Esophageal/Varices

15. Sexual gratification from actual to fantasized inanimate objects are known as:

- a. Exhibitionism
- b. Voyeurism
- c. Fetishism
- d. Frotteurism

16. One of the principles of organization in which the power of decision making is vested upon the top level management, so that the subordinates will refer the problems to the head of the department is called:

- a. Integration
- b. Delegation
- c. Centralization
- d. Functional autonomy

17. A chronic sleep disorder characterized by excessive day time drowsiness and sudden attacks of sleep is termed as:

- a. Hypersomnia
- b. Narcolepsy
- c. Ekbom's syndrome
- d. Parasomnia

18. Which among the following is NOT a University nursing programme?

- a. B.Sc. Nursing
- b. Diploma in General Nursing & Midwifery
- c. Post Basic B.Sc. Nursing
- d. M.Sc. Nursing

19. Cross over research design is a type of:

- a. Quasi experimental research design
- b. True experimental research design
- c. Descriptive design
- d. Pre experimental research design

20. Writing Annotated bibliography is related to _____.

- a. Reference writing
- b. Literature review
- c. Research methodology
- d. Data analysis

21. The following are the core principles of Dorothy Johnson's Behavioural system model EXCEPT:

- a. Stabilization
- b. Reorganization
- c. Dialectical Contradiction
- d. Pandimensionality

Ans.

- 1. d
- 2. b
- 3. c
- 4. b
- 5. c
- 6. d
- 7. b
- 8. c
- 9. a
- 10. a
- 11. b
- 12. d
- 13. b
- 14. b
- 15. c
- 16. c
- 17. b
- 18. b
- 19. b
- 20. b
- 21. d



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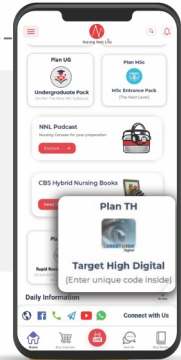
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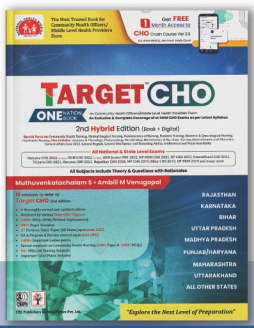
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