

RRB Staff Nurse PYQs

RRB Staff Nurse 2019 Shift-1

Q1 Find the next number in the series.

7, 9, 13, 21, 37, ?

- (A) 57 (B) 55
(C) 69 (D) 63

Q2 In domestic water sewage, which is NOT a dissolved material?

- (A) Nitrate (B) Phosphate
(C) Calcium (D) Sand

Q3 A girl walks:

- 2 km North
- turns right and walks 6 km
- turns left and walks 3 km
- turns left again and walks 3 km
- turns left again and walks 5 km

How far is she from the starting point?

- (A) 7 km (B) 5 km
(C) 3 km (D) 4 km

Q4 What nutrient deficiency causes goiter?

- (A) Iodine (B) Protein
(C) Calcium (D) Carbohydrate

Q5 Dandiya is the traditional folk dance of

- (A) Sikkim (B) Karnataka
(C) Gujarat (D) Uttar Pradesh

Q6 Which is the process of assigning specific duties?

- (A) Coordination (B) Supervision
(C) Communication (D) Delegation

Q7 Which structures act as telephone wires in the body?

- (A) Muscles (B) Nerves
(C) Arteries (D) Veins

Q8 Which state has the highest number of National Parks?

- (A) Tamil Nadu (B) Madhya Pradesh
(C) Tripura (D) Punjab

Q9 Symbol of Gallium

- (A) Gl (B) Ga
(C) G (D) Gm

Q10 Stage where personal relationships and affection develop in group dynamics

- (A) Performing (B) Forming
(C) Norming (D) Storming

Q11 Immediate side effects of ECT

- (A) Temporary memory loss and confusion
(B) Fractures
(C) Myocardial infarction
(D) Permanent brain damage

Q12 Real executive of India

- (A) President (B) Prime Minister
(C) Speaker (D) Vice President

Q13 HML analysis means

- (A) Heaping, Moulding and Lowering
(B) High, Medium and Low
(C) Hierarchy, Moderate and Low
(D) High Medical Laboratory Inventory

Q14 How do antipsychotic drugs work?

- (A) Depress CNS
(B) Inhibit MAO
(C) Block dopamine
(D) Block serotonin reuptake

Q15 Mobitz II is

- (A) Complete heart block
(B) Second-degree AV block
(C) Third-degree AV block
(D) First-degree AV block

Q16 Maintains osmotic pressure and acid-base balance

- (A) Sodium (B) Magnesium
(C) Fluorine (D) Zinc

Q17 Best position for enema



- (A) Right lateral (B) Lithotomy
(C) Prone (D) Left lateral
- Q18** SI unit of electric field strength
(A) Henry/Coulomb (B) Joule/Coulomb
(C) Coulomb/Newton (D) Newton/Coulomb
- Q19** Time required by a satellite to complete one revolution
(A) Period of force
(B) Period of motion
(C) Period of momentum
(D) Period of revolution
- Q20** Which department issues PAN?
(A) Financial Affairs
(B) Revenue
(C) Income Tax
(D) Economic Affairs
- Q21** Fetal blood vessel lying over the internal os
(A) Cord prolapse
(B) Cord presentation
(C) Occult cord prolapse
(D) Vasa previa
- Q22** Facial palsy is also called
(A) Erb's palsy
(B) Klumpke's palsy
(C) Bell's palsy
(D) Brachial palsy
- Q23** Blaming others for one's own failures
(A) Repression (B) Projection
(C) Sublimation (D) Denial
- Q24** Projectile vomiting occurs in
(A) Duodenal atresia
(B) Intussusception
(C) Megacolon
(D) Pyloric stenosis
- Q25** Maternal Mortality Ratio is expressed per
(A) 1,000 live births
(B) 100 live births
(C) 10,000 live births
(D) 100,000 live births
- Q26** Train and platform
(A) 484 (B) 494
(C) 464 (D) 474
- Q27** Drug preferred in urinary and genital infections
(A) Norfloxacin (B) Pefloxacin
(C) Ofloxacin (D) Ciprofloxacin
- Q28** Lack of oxygen in tissues
(A) Anorexia (B) Anoxia
(C) Cyanosis (D) Hypoxia
- Q29** Ascorbic acid is
(A) Vitamin E (B) Vitamin C
(C) Vitamin D (D) Vitamin A
- Q30** Basis of ABC analysis in inventory control
(A) Criticality of items
(B) Annual consumption value
(C) Procurement difficulty
(D) Unit cost
- Q31** Which one of the following is the process of urination resulting from voluntary and involuntary muscles?
(A) Micturition process
(B) Prostate process
(C) Kidney process
(D) Glomerular process
- Q32** Which is NOT a therapeutic communication technique?
(A) Humour
(B) Informing
(C) Automatic response
(D) Reflection
- Q33** In which condition should oral contraceptive pills NOT be given to a woman?
(A) Vaginal infection
(B) Asthma
(C) Hypertension
(D) Menstrual problems
- Q34** The Brodmann area number that corresponds to the primary visual cortex is
(A) Three (B) Seventeen



- (C) Forty-one (D) Four
- Q35** By selling a CPU for ₹7935, a man makes a profit of 15%. At what price should he sell it to make a profit of 25%?
 (A) ₹8725 (B) ₹8525
 (C) ₹8825 (D) ₹8625
- Q36** Which sampling method is effective when the sampling frame is difficult to identify in research?
 (A) Quota Sampling
 (B) Convenient Sampling
 (C) Purposive Sampling
 (D) Snowball Sampling
- Q37** Which is a macromineral required for normal body function?
 (A) Gold (B) Silver
 (C) Lead (D) Calcium
- Q38** Which is the major cause of postpartum haemorrhage (PPH)?
 (A) Atonic uterus
 (B) Thrombin
 (C) Pre-eclampsia
 (D) Incoordinate uterine action
- Q39** What is Bacille Calmette–Guérin (BCG)?
 (A) Toxoid
 (B) Immunoglobulin
 (C) Live attenuated vaccine
 (D) Killed vaccine
- Q40** Which sign convention is followed for spherical mirrors and lenses?
 (A) New Einstein Sign
 (B) New Cartesian Sign
 (C) New Huygens Sign
 (D) New Newton Sign
- Q41** Which infectious agent is composed only of protein and lacks nucleic acid?
 (A) Virus (B) Bacteria
 (C) Prion (D) Fungus
- Q42** Renal threshold for glucose refers to:
 (A) Blood glucose level at which glucose first appears in urine
 (B) Normal fasting blood glucose
 (C) Urine glucose level
 (D) Blood urea level
- Q43** Which step comes first in the nursing process?
 (A) Planning (B) Assessment
 (C) Evaluation (D) Implementation
- Q44** Which organization developed the standardized nursing diagnoses used worldwide?
 (A) WHO
 (B) ICN
 (C) NANDA International
 (D) INC
- Q45** Klinefelter syndrome is characterized by which chromosomal pattern?
 (A) 45, XO (B) 46, XY
 (C) 47, XXY (D) 47, XYY
- Q46** The three-tier system of Panchayati Raj was recommended by
 (A) A.Jai Prakash Narain Committee
 (B) Simon Commission
 (C) Kaka Kalelkar Committee
 (D) Balwant Rai Mehta Committee
- Q47** The Schick test is used for the diagnosis of
 (A) Diphtheria (B) Measles
 (C) Rubella (D) Mumps
- Q48** Which is the last part of the small intestine?
 (A) Ileum (B) Jejunum
 (C) Duodenum (D) Appendix
- Q49** Which metal is liquid at room temperature?
 (A) Sodium (B) Mercury
 (C) Coal (D) Sulphur
- Q50** Pyridoxine is otherwise called as:
 (A) Vitamin B1 (B) Vitamin B2
 (C) Vitamin B12 (D) Vitamin B6
- Q51** A male baby will be having an optimal (50th percentile) head circumference of 45 cm at age



- (A) 5 months (B) 7 months
(C) 9 months (D) 12 months
- Q52** On dividing a number by 483, the remainder is 68. What will be the remainder when the same number is divided by 69?
(A) 38 (B) 58
(C) 68 (D) 48
- Q53** In which stage of labour is the placenta delivered?
(A) First stage (B) Third stage
(C) Second stage (D) Fourth stage
- Q54** The normal IQ level of human beings is:
(A) 80–100 (B) 120 and above
(C) 110–120 (D) 90–110
- Q55** Down syndrome is also known as:
(A) Trisomy 13 (B) Trisomy 18
(C) Trisomy 21 (D) Monosomy 13
- Q56** What is the emergency management of burn injury during the first 24 hours?
(A) Plastic surgery
(B) Fluid resuscitation
(C) Dressing
(D) Antibiotic therapy
- Q57** A framework for quality care does not include:
(A) Critical Thinking
(B) Professional Standards
(C) Mission, Values
(D) Care Guidelines
- Q58** Wermer's syndrome is considered as:
(A) MEN I (B) MEN II
(C) MEN IV (D) MEN III
- Q59** All green plants and bacteria that synthesize their own food by photosynthesis belong to which category?
(A) Decomposers (B) Consumers
(C) Food givers (D) Producers
- Q60** Which is a chronic inflammatory autoimmune disease affecting peripheral synovial joints?
(A) Rheumatoid Arthritis
(B) Polyarthritis
(C) Osteoarthritis
(D) Ankylosing Spondylitis
- Q61** Which one of the following includes the immediate step in resuscitation of the newborn?
(A) Suction of the baby's stomach
(B) Clearing the oral and nasal airway
(C) Squeezing the chest to remove secretions from the airway
(D) Routinely giving sodium bicarbonate
- Q62** A diet high in saturated fats can be linked to:
(A) Kidney failure
(B) Cardiac/Heart diseases
(C) Anorexia
(D) Bulimia
- Q63** Who discovered the antibiotic Penicillin?
(A) Alexander Fleming
(B) Edward Jenner
(C) Waksman
(D) None of these
- Q64** The ratio of girls to boys in a school of 4500 students is 49:51. How many more girls should be admitted to make the ratio 1:1?
(A) 88 (B) 90
(C) 92 (D) 86
- Q65** Which one of the following aspects is NOT considered an indicator of a hospital system?
(A) Patient Satisfaction
(B) Public Relations
(C) Machinery
(D) Quality of Care
- Q66** Two bells ring at intervals of 59 seconds and 70 seconds. If they ring together at 10 AM, after how many seconds will they ring together again?
(A) 4230 (B) 4030
(C) 4330 (D) 4130
- Q67** Which of the following is a biodegradable material?
(A) Wood (B) Plastic bag
(C) Nuclear waste (D) Aluminium



- Q68** Nominal variables are also known as:
 (A) Ordinal variable
 (B) Categorical variable
 (C) Discrete variable
 (D) Confounding variable
- Q69** Which is the main characteristic of scientific research?
 (A) Empirical Research
 (B) Experimental Research
 (C) Theoretical Research
 (D) Historical Research
- Q70** Which structure transmits sound vibrations to the internal ear?
 (A) Auricle
 (B) Tympanic Membrane
 (C) Vestibule
 (D) Eustachian Tube
- Q71** Which one of the following is a function of the liver?
 (A) Synthesis of plasma protein
 (B) Elimination of carbohydrates
 (C) Concentration of bile
 (D) Secretion of cholecystokinin
- Q72** Statement: $W = O > R \geq I > E < D$
 Conclusions:
 i) $E < R$
 ii) $I < O$
 iii) $W > I$
 (A) Only i and ii follow
 (B) Only ii and iii follow
 (C) Only iii follows
 (D) All follow
- Q73** What is the cardinal sign of meningitis?
 (A) Trousseau's Sign
 (B) Kernig's Sign
 (C) Ortolani Sign
 (D) Chvostek's Sign
- Q74** The Pong Dam is built on which river?
 (A) Sutlej (B) Beas
 (C) Ravi (D) Chenab
- Q75** Bile salts are important for digestion of _____.
 (A) Fat (B) Protein
 (C) Carbohydrate (D) Iron
- Q76** In a certain code language, if BEACH is coded as GDCJE, then how is FLUID coded in that language?
 (A) UOLRW (B) HNWKF
 (C) GLXOI (D) NHWFK
- Q77** Which is the earliest sign of Rickets?
 (A) Harrison's Groove
 (B) Craniotabes
 (C) Bow Legs
 (D) Rickety Rosary
- Q78** Life-threatening condition due to rapid loss of blood or body fluids is known as _____.
 (A) Hypovolemic Shock
 (B) Neurogenic Shock
 (C) Anaphylactic Shock
 (D) Septic Shock
- Q79** What is the frictional force exerted by fluids also called?
 (A) Slag (B) Effort
 (C) Drag (D) Core
- Q80** The memory disorder that affects older adults is _____.
 (A) Insomnia (B) Dystrophy
 (C) Dyspnoea (D) Dementia
- Q81** Who won the Australian Open 2019 Men's Singles title?
 (A) Rafael Nadal (B) Roger Federer
 (C) Andy Murray (D) Novak Djokovic
- Q82** Which is a cause of Anuria?
 (A) Appendicitis (B) Gastritis
 (C) Pyrexia (D) Renal Failure
- Q83** Standards of mental health nursing practice are published by _____.
 (A) American Nurses Association (ANA)
 (B) Indian Nursing Council
 (C) State Nursing Council



(D) Trained Nurses Association of India

Q84 The ancient Harappan city of Lothal is located in which state?

- (A) Gujarat (B) Rajasthan
(C) Uttar Pradesh (D) Punjab

Q85 An effective approach in preventing pulmonary embolism is to prevent _____.

- (A) Heart Disease
(B) Deep Vein Thrombosis (DVT)
(C) Chronic Obstructive Pulmonary Disease
(D) Diabetes Mellitus

Q86 How many drops per minute would you administer when the doctor's order states that the client should receive 1000 cc of fluid in 8 hours and the IV set delivers 20 gtts per cc?

- (A) 48 gtts/min (B) 51 gtts/min
(C) 42 gtts/min (D) 31 gtts/min

Q87 Which theory was developed by a nurse?

- (A) Uncertainty in Illness Theory
(B) Hierarchy of Need Theory
(C) Social Cognitive Theory
(D) Job Satisfaction Theory

Q88 The number of new cases occurring in a defined population during a specified period of time is called

- (A) Morbidity
(B) Prevalence
(C) Incidence
(D) Point Prevalence

Q89 Which of the following develops a tough coat and is gradually converted into a seed in plants?

- (A) Ovule (B) Pollen grains
(C) Embryo (D) Zygote

Q90 Which drug is used to treat HIV/AIDS?

- (A) Ampicillin (B) Dexamethasone
(C) Streptomycin (D) Zidovudine

Q91 Which assessment method will be used after the client has been discharged?

- (A) Auditing

(B) Retrospective Evaluation

(C) Concurrent Evaluation

(D) Quality Assurance

Q92 Where does fertilization take place?

- (A) Infundibulum (B) Ovary
(C) Ampulla (D) Isthmus

Q93 "Splitting" by the client with Borderline Personality Disorder denotes:

- (A) A primitive defence mechanism in which the client sees people as all good or all bad.
(B) Two distinct personalities within the client.
(C) Evidence of precocious development.
(D) A brief psychotic episode with loss of contact with reality.

Q94 In which year was the CSSM (Child Survival and Safe Motherhood) Programme initiated?

- (A) 1980 (B) 1990
(C) 1992 (D) 1982

Q95 How many times can a person be elected as the President of India?

- (A) Five times only
(B) One time only
(C) Any number of times
(D) Two times only

Q96 2450 boys and 1750 girls are examined in a test. If 42% of the boys and 36% of the girls pass, what percentage of the total students failed?

- (A) 62.5% (B) 63.5%
(C) 60.5% (D) 61.5%

Q97 The word "Emotion" etymologically means

- (A) To express (B) To stir up
(C) To test (D) To cry

Q98 The term "Leg Before Wicket (LBW)" is associated with which sport?

- (A) Football (B) Cricket
(C) Chess (D) Volleyball

Q99 By which of the following does HIV NOT spread?

- (A) Use of intoxicant drugs
(B) Sexual contact



- (C) Blood transfusion
- (D) Shaking hands

Q100 How much population is covered by one Community Health Centre (CHC)?

- (A) 15,000–45,000
- (B) 20,000–30,000
- (C) 3,000–5,000
- (D) 80,000–120,000



Answer Key

Q1 (D)
Q2 (D)
Q3 (D)
Q4 (A)
Q5 (C)
Q6 (D)
Q7 (B)
Q8 (B)
Q9 (B)
Q10 (C)
Q11 (A)
Q12 (B)
Q13 (B)
Q14 (C)
Q15 (B)
Q16 (A)
Q17 (D)
Q18 (D)
Q19 (D)
Q20 (C)
Q21 (D)
Q22 (C)
Q23 (B)
Q24 (D)
Q25 (D)
Q26 (C)
Q27 (C)
Q28 (D)
Q29 (B)
Q30 (B)
Q31 (A)

Q32 (C)
Q33 (C)
Q34 (B)
Q35 (C)
Q36 (D)
Q37 (D)
Q38 (A)
Q39 (C)
Q40 (B)
Q41 (C)
Q42 (A)
Q43 (B)
Q44 (C)
Q45 (C)
Q46 (D)
Q47 (A)
Q48 (A)
Q49 (B)
Q50 (D)
Q51 (C)
Q52 (C)
Q53 (B)
Q54 (D)
Q55 (C)
Q56 (B)
Q57 (D)
Q58 (A)
Q59 (D)
Q60 (A)
Q61 (B)
Q62 (B)



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Q63 (A)
Q64 (B)
Q65 (C)
Q66 (A)
Q67 (A)
Q68 (B)
Q69 (A)
Q70 (B)
Q71 (A)
Q72 (D)
Q73 (B)
Q74 (B)
Q75 (A)
Q76 (D)
Q77 (B)
Q78 (A)
Q79 (C)
Q80 (D)
Q81 (D)

Q82 (D)
Q83 (A)
Q84 (A)
Q85 (B)
Q86 (C)
Q87 (A)
Q88 (C)
Q89 (A)
Q90 (D)
Q91 (B)
Q92 (C)
Q93 (A)
Q94 (B)
Q95 (C)
Q96 (D)
Q97 (A)
Q98 (B)
Q99 (D)
Q100 (D)



Hints & Solutions

Q1 Text Solution:

Explanation

Difference between consecutive numbers:

- $9 - 7 = 2$
- $13 - 9 = 4$
- $21 - 13 = 8$
- $37 - 21 = 16$

The differences double each time:

2, 4, 8, 16, **32**

Next number = $37 + 32 = 69$.

Correct answer should actually be C (69). If the official key says 63, it is incorrect.

Q2 Text Solution:

Explanation

Dissolved materials dissolve completely in water.

- Nitrate ✓
- Phosphate ✓
- Calcium ions ✓
- Sand ✗ remains suspended and does not dissolve.

Q3 Text Solution:

Explanation

Movement:

- North 2 km
- Right (East) 6 km
- Left (North) 3 km
- Left (West) 3 km
- Left (South) 5 km

Coordinates:

Start (0,0)

→ (0,2)

→ (6,2)

→ (6,5)

→ (3,5)

→ (3,0)

Distance from origin = **3 km**? Wait:

Final point = (3,0)

Distance = **3 km**

Therefore, mathematically the answer should be **C. 3 km**, not 4 km. The chosen option appears incorrect.

Q4 Text Solution:

Explanation

Goiter develops due to **iodine deficiency**, which decreases thyroid hormone production and enlarges the thyroid gland.

Q5 Text Solution:

Explanation

Dandiya Raas is a famous folk dance performed during **Navratri** in Gujarat.

Q6 Text Solution:

Explanation

Delegation means assigning authority and responsibility to another person to perform specific tasks.

Q7 Text Solution:

Explanation

Nerves transmit electrical impulses between the brain and body, just like telephone wires carry signals.

Q8 Text Solution:

Explanation

Madhya Pradesh is known as the "Tiger State of India" and has the highest number of National Parks.

Q9 Text Solution:

Explanation

Gallium's chemical symbol is **Ga**.

Q10 Text Solution:

Explanation

In the Norming stage, trust, cooperation, and interpersonal relationships are established.

Q11 Text Solution:

✓ A. Temporary memory loss and confusion

Explanation

Common immediate effects include:

- Temporary confusion



- Short-term memory loss
- Headache
- Muscle soreness

Q12 Text Solution:**Explanation**

The President is the constitutional head, while the Prime Minister is the real executive.

Q13 Text Solution:**Explanation**

HML analysis classifies inventory according to **unit price**:

- High
- Medium
- Low

Q14 Text Solution:**Explanation**

Most antipsychotics reduce psychotic symptoms by blocking dopamine (especially D₂) receptors.

Q15 Text Solution:**Explanation**

Mobitz II is a type of **second-degree AV block** characterized by dropped QRS complexes without progressive PR prolongation.

Q16 Text Solution:**Explanation**

Sodium is the major extracellular cation responsible for maintaining osmotic pressure and fluid balance.

Q17 Text Solution:**Explanation**

Left lateral position allows the solution to flow naturally into the sigmoid colon due to gravity.

Q18 Text Solution:**Explanation**

Electric field strength = Force/Charge = Newton per Coulomb.

Q19 Text Solution:**Explanation**

The time taken for one complete orbit is called the **period of revolution**.

Q20 Text Solution:**Explanation**

PAN is issued by the Income Tax Department under the Central Board of Direct Taxes (CBDT).

Q21 Text Solution:**Explanation**

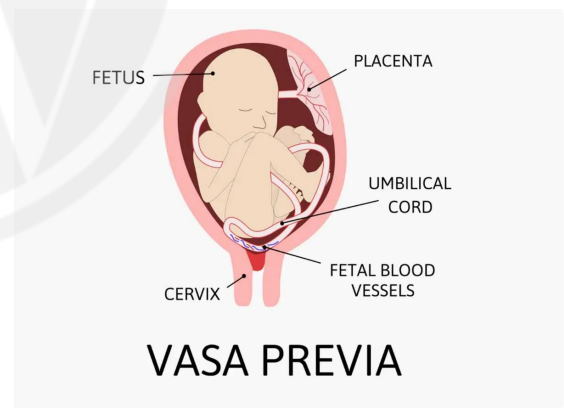
Vasa previa is a condition in which unprotected fetal blood vessels run through the membranes across or near the internal cervical os. During membrane rupture or labor, these vessels may tear, causing rapid fetal blood loss and severe fetal distress. It is an obstetric emergency that usually requires cesarean delivery.

Concept

- Fetal blood vessels cross the internal os without protection by the umbilical cord or placenta.

Important Point

- Vasa previa = fetal vessels over the internal os.
- Rupture of membranes can cause massive fetal hemorrhage.
- Antenatal diagnosis by color Doppler ultrasound improves fetal survival.

**Confusing Point**

- Cord presentation: Umbilical cord lies between the presenting part and intact membranes.
- Cord prolapse: Umbilical cord descends below the presenting part after membrane rupture.
- Occult cord prolapse: Cord lies beside the presenting part and is not visible or palpable.



Q22 Text Solution:**Explanation**

Bell's palsy is an acute lower motor neuron paralysis of the facial nerve (cranial nerve VII).

Q23 Text Solution:**Explanation**

Projection is a defense mechanism in which unacceptable feelings or faults are attributed to others.

Q24 Text Solution:**Explanation**

Hypertrophic pyloric stenosis classically presents with **projectile, non-bilious vomiting** in young infants.

Q25 Text Solution:**Explanation**

MMR = Number of maternal deaths per **100,000 live births**.

Q26 Text Solution:**Explanation**

Train length = $29 \times 49 = 142 \text{ m}$

Platform + Train = $29 \times 65 = 1885 \text{ m}$

Platform length = $1885 - 142 = 1743 \text{ m}$

This calculation shows none of the given options match. The printed question or speed/time values are likely incorrect. If the intended values differ, the official answer cannot be verified from the provided data.

Q27 Text Solution:**Explanation**

Ofloxacin has been commonly used for urinary and genital tract infections because of its good tissue penetration and activity against common pathogens (though current antibiotic choice depends on resistance patterns and guidelines).

Q28 Text Solution:**Explanation**

- **Hypoxia:** Reduced oxygen supply to tissues.
- **Anoxia:** Complete absence of oxygen.
- **Cyanosis:** Bluish discoloration due to deoxygenated hemoglobin.

Q29 Text Solution:**Explanation**

Vitamin C is chemically known as **ascorbic acid** and is essential for collagen synthesis, wound healing, and immunity.

Q30 Text Solution:**Explanation**

ABC analysis classifies inventory according to **annual consumption value (annual usage $\times$ unit cost)**:

- **A items:** High annual consumption value, tight control.
- **B items:** Moderate annual consumption value.
- **C items:** Low annual consumption value.

Note: The chosen option (**Criticality of items**) is incorrect. Criticality is the basis of **VED analysis (Vital, Essential, Desirable)**, not ABC analysis

Q31 Text Solution:**Explanation I**

Micturition, also known as **urination or voiding**, is the physiological process of emptying urine from the urinary bladder. It is a coordinated action involving both the **autonomic nervous system (involuntary control)** and the **somatic nervous system (voluntary control)**.

Urine is continuously produced by the kidneys and transported to the urinary bladder through the ureters. As the bladder fills (usually with about **250–400 mL of urine**), stretch receptors located in the bladder wall become activated. These receptors send nerve impulses to the **sacral spinal cord (S2–S4)**, initiating the **micturition reflex**.

The **parasympathetic nervous system** causes contraction of the **detrusor muscle** (the smooth muscle of the bladder wall) and relaxation of the



internal urethral sphincter, both of which occur involuntarily.

However, the **external urethral sphincter** is composed of skeletal muscle and is under **voluntary control** through the **pudendal nerve**. A person can consciously contract or relax this sphincter, allowing urination to be delayed until an appropriate time.

Thus, normal micturition is a combination of **involuntary reflexes** and **voluntary control**, making **Micturition process** the correct answer.

Q32 Text Solution:

Explanation (Detailed)

Therapeutic communication is a purposeful and professional interaction between a nurse and a patient that promotes understanding, trust, emotional support, and problem-solving. It helps nurses collect accurate information, reduce a patient's anxiety, encourage expression of feelings, and establish a therapeutic nurse-patient relationship. Effective communication is one of the most important nursing skills and plays a vital role in patient-centered care.

Automatic response is **not** considered a therapeutic communication technique because it is a habitual, mechanical, or stereotyped reply given without understanding the patient's actual feelings or concerns. Examples include statements such as **"Don't worry," "Everything will be fine,"** or **"You'll be okay."** These responses often minimize the patient's emotions and discourage further communication. Instead of feeling understood, the patient may feel ignored or dismissed.

Therapeutic communication requires active listening, empathy, clarification, reflection, silence, focusing, and providing information when appropriate. These techniques encourage patients to express themselves freely and help nurses understand their physical and emotional needs.

Therefore, **Automatic response** is considered **non-therapeutic communication**, making **Option C** the correct answer.

Why are the other options incorrect?

A. Humour

Humour can be therapeutic **when used appropriately**. Gentle, respectful humour may reduce anxiety, improve rapport, and create a relaxed atmosphere. However, humour should never ridicule, embarrass, or ignore a patient's feelings.

B. Informing

Informing is an important therapeutic communication technique. It involves providing clear and accurate information about procedures, treatments, medications, or hospital routines. Proper information reduces fear and improves patient cooperation.

D. Reflection

Reflection is a classic therapeutic communication technique. The nurse repeats or restates the patient's thoughts or feelings, encouraging deeper discussion. For example:

Patient: *"I'm scared about my surgery."*

Nurse: *"You seem very worried about the surgery."*

This helps patients explore and express their emotions.

Q33 Text Solution:

Explanation

Oral contraceptive pills (OCPs) are hormonal medications used to prevent pregnancy. Most combined oral contraceptive pills contain **estrogen and progesterone**, while some contain only progesterone (mini-pills). These hormones prevent ovulation, thicken cervical mucus to block sperm entry, and make the endometrium unsuitable for implantation.

Women with **uncontrolled hypertension (high blood pressure)** should generally **avoid combined oral contraceptive pills**, especially those containing estrogen. Estrogen can increase blood pressure, promote sodium and water retention, and increase the risk of serious cardiovascular complications such as **stroke, myocardial infarction (heart attack), deep vein thrombosis (DVT),** and **pulmonary embolism**.



The risk becomes even greater in women who are older than 35 years, smoke cigarettes, or have diabetes.

Current medical guidelines recommend that women with severe or uncontrolled hypertension should use **non-estrogen methods** such as copper IUCDs, levonorgestrel IUCDs, or progestin-only contraceptives after appropriate medical evaluation.

Nurses should always assess blood pressure before initiating hormonal contraceptives and educate women regarding warning symptoms such as severe headache, chest pain, blurred vision, or leg swelling.

Why are the other options incorrect?

A. Vaginal infection

Vaginal infections are **not an absolute contraindication** to oral contraceptive pills. The infection should be treated appropriately, but OCPs themselves are not usually avoided because of a simple vaginal infection.

B. Asthma

Asthma is not a routine contraindication to oral contraceptive pills. Most women with controlled asthma can safely use OCPs unless other contraindications are present.

D. Menstrual problems

In fact, oral contraceptive pills are commonly prescribed to manage menstrual disorders such as irregular periods, dysmenorrhea, heavy menstrual bleeding, and endometriosis.

Q34 Text Solution:

The **primary visual cortex**, also called **V1** or the **striate cortex**, is located in the **occipital lobe** surrounding the **calcarine sulcus**. It corresponds to **Brodmann Area 17** and is the first cortical region that receives visual information from the retina through the optic nerve, optic chiasm, optic tract, lateral geniculate body of the thalamus, and optic radiations. Area 17 is responsible for the **initial processing of vision**, including recognition of light intensity, color, orientation, edges, and movement.

Information processed here is then transmitted to **Brodmann Areas 18 and 19**, which function as visual association areas and help identify objects, faces, shapes, and spatial relationships.

Damage to Brodmann Area 17 may result in **cortical blindness** despite healthy eyes because the brain cannot interpret visual signals.

Knowledge of Brodmann areas is important in neurology, psychiatry, neuroanatomy, and nursing examinations because different cortical areas are associated with specific functions such as movement, sensation, speech, hearing, and vision.

A. Area 3

Brodmann Area 3 is part of the **primary somatosensory cortex** located in the parietal lobe. It receives sensations such as touch, pain, pressure, vibration, and temperature.

C. Area 41

Area 41 is the **primary auditory cortex**, responsible for hearing. It is located in the temporal lobe.

D. Area 4

Area 4 is the **primary motor cortex**, located in the precentral gyrus. It controls voluntary movements.

Q35 Text Solution:

To solve profit and loss questions, first calculate the **Cost Price (CP)**.

Selling Price (SP) = ₹7935

Profit = 15%

Therefore,

CP = 7935 ÷ 1.15 = ₹6900

Now calculate the selling price for **25% profit**.

New SP = CP × 1.25

= 6900 × 1.25

= ₹8625

Thus, the correct mathematical answer is **₹8625**.

Profit and loss questions are frequently asked in nursing officer and government examinations.

The most important formulas are:



- Profit = SP – CP
- Loss = CP – SP
- $SP = CP \times (100 + \text{Profit}\%) / 100$
- $CP = SP \times 100 / (100 + \text{Profit}\%)$

Learning these formulas allows candidates to solve questions quickly without lengthy calculations.

Memory Trick

CP First → Then SP

15% Profit = $SP \div 1.15$

25% Profit = $CP \times 1.25$

Q36 Text Solution:

Snowball sampling is a **non-probability sampling technique** used when the target population is difficult to locate or identify. In this method, the researcher first identifies a few eligible participants. These participants then refer or recruit other individuals who meet the study criteria. As more participants are recruited through referrals, the sample gradually grows like a **rolling snowball**, which is why it is called **Snowball Sampling**.

This technique is especially useful when studying **hidden or hard-to-reach populations**, such as people with HIV/AIDS, intravenous drug users, commercial sex workers, homeless individuals, victims of domestic violence, or patients with rare diseases. In such situations, obtaining a complete sampling frame is almost impossible. One limitation of snowball sampling is that it may introduce **selection bias**, since participants often refer individuals from similar social groups. Therefore, the findings may not be generalizable to the entire population.

In nursing research, snowball sampling is commonly used in qualitative studies and exploratory research where participants are difficult to identify through conventional sampling methods.

A. Quota Sampling

Quota sampling divides the population into groups and selects participants until a predetermined quota is reached. It does not specifically solve the problem of an unavailable sampling frame.

B. Convenient Sampling

Convenience sampling selects participants who are easiest to access. Although simple and inexpensive, it may not represent the target population accurately.

C. Purposive Sampling

Purposive sampling involves selecting participants based on the researcher's judgment because they possess specific characteristics. It is useful but is not specifically designed for hidden populations.

Q37 Text Solution:

Minerals are inorganic nutrients required for various physiological functions. They are classified into **macrominerals** and **trace (microminerals)** depending on the amount required by the body.

Calcium is the most abundant macromineral in the human body. Adults require approximately **1000–1200 mg/day**. Nearly **99% of calcium** is stored in bones and teeth, while the remaining 1% is present in blood and soft tissues.

Calcium plays a vital role in:

- Bone and teeth formation
- Muscle contraction
- Blood clotting
- Nerve impulse transmission
- Hormone secretion
- Cardiac muscle contraction

Calcium deficiency may cause **osteoporosis, osteomalacia, rickets, tetany, and muscle cramps**.

Major dietary sources include milk, cheese, curd, green leafy vegetables, fish, almonds, and fortified foods.

Why are the other options incorrect?



A. Gold

Gold has no nutritional role in normal body metabolism.

B. Silver

Silver is not an essential mineral for human health.

C. Lead

Lead is a toxic heavy metal causing neurological, renal, and hematological disorders.

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Q38 Text Solution:

Postpartum haemorrhage (PPH) is defined as blood loss of **≥500 mL after vaginal delivery** or **≥1000 mL after cesarean section**, or any amount of bleeding causing hemodynamic instability within 24 hours of childbirth.

The **most common cause (about 70–80%)** of PPH is **uterine atony**. After delivery, the uterus normally contracts firmly to compress the blood vessels at the placental site. If the uterus fails to contract adequately, these blood vessels remain open, leading to excessive bleeding.

Risk factors include:

- Overdistended uterus (multiple pregnancy, polyhydramnios)
- Prolonged labour
- Grand multiparity
- Retained placenta
- Oxytocin overuse
- General anesthesia

Management includes:

- Uterine massage
- Oxytocin infusion
- Methylergometrine (if no hypertension)
- Carboprost
- Misoprostol
- Surgical management if bleeding persists

Early recognition and prompt management are lifesaving.

Why are the other options incorrect?

B. Thrombin

Thrombin disorders (coagulation defects) are a less common cause of PPH.

C. Pre-eclampsia

Pre-eclampsia increases pregnancy complications but is not the commonest cause of postpartum haemorrhage.

D. Incoordinate uterine action

This causes abnormal labour but is not the leading cause of PPH.

Common Cause.

Q39 Text Solution:

BCG (Bacille Calmette–Guérin) is a **live attenuated vaccine** prepared from a weakened strain of **Mycobacterium bovis**. It is primarily used to protect infants and young children against severe forms of tuberculosis, particularly **TB meningitis** and **miliary tuberculosis**.

In India, BCG is administered **at birth or as early as possible up to one year of age** under the Universal Immunization Programme (UIP). It is given **intradermally** over the **left upper arm**.

Dose:

- **0.05 mL** for infants below 1 month
- **0.1 mL** after 1 month

A small papule develops after vaccination, followed by a pustule and eventually a scar. The scar indicates a normal local reaction and is commonly seen after successful vaccination. BCG does not provide complete protection against pulmonary TB in adults but significantly reduces severe childhood tuberculosis.

Why are the other options incorrect?

A. Toxoid

Toxoids are inactivated bacterial toxins (e.g., tetanus, diphtheria).

B. Immunoglobulin

Immunoglobulins provide passive immunity and are not vaccines.

D. Killed vaccine

BCG contains weakened live bacteria, not killed organisms.



Q40 Text Solution:

The **New Cartesian Sign Convention** is the universally accepted system used in optics for solving problems involving **spherical mirrors and lenses**.

According to this convention:

- The pole (mirror) or optical center (lens) is taken as the origin.
- All distances are measured from this point.
- Distances measured **in the direction of incident light** are positive.
- Distances measured **opposite to the direction of incident light** are negative.
- Heights measured above the principal axis are positive.
- Heights measured below the principal axis are negative.

Using a standardized sign convention prevents confusion and allows correct application of the mirror and lens formulae:

- Mirror formula: $\frac{1}{f} = \frac{1}{v} + \frac{1}{u}$
- Lens formula: $\frac{1}{f} = \frac{1}{v} - \frac{1}{u}$ (depending on convention)

This convention is widely used in physics, optics, and competitive examinations.

- **Einstein Sign** No such sign convention exists in geometrical optics.
- **Huygens Sign** Huygens proposed the wave theory of light, not the sign convention.
- **Newton Sign** Newton developed the corpuscular theory of light, not the standard sign convention.

Q41 Text Solution:

A **prion** is an abnormal infectious protein that **does not contain DNA or RNA**. Unlike bacteria, viruses, fungi, and parasites, prions reproduce by

converting normal proteins into abnormal misfolded proteins. This makes prions unique among infectious agents.

Prions primarily affect the **central nervous system (CNS)** and cause **transmissible spongiform encephalopathies (TSEs)**. These diseases produce sponge-like holes in brain tissue, leading to progressive neurological deterioration.

Examples of prion diseases include:

- **Creutzfeldt–Jakob Disease (CJD)** – humans
- **Kuru** – humans
- **Variant CJD**
- **Mad Cow Disease (Bovine Spongiform Encephalopathy)** – cattle
- **Scrapie** – sheep

Symptoms include rapidly progressive dementia, ataxia, muscle stiffness, involuntary jerky movements (myoclonus), personality changes, and eventually coma and death. There is currently **no effective cure**.

Prions are highly resistant to heat, radiation, formaldehyde, alcohol, and standard sterilization procedures. Special methods such as prolonged autoclaving and sodium hydroxide treatment are required to inactivate them.

Why are the other options incorrect?

A. Virus

Viruses contain **DNA or RNA** enclosed within a protein coat. They require living host cells for replication.

B. Bacteria

Bacteria are single-celled microorganisms containing both DNA and RNA and reproduce independently.

D. Fungus

Fungi are eukaryotic organisms composed of cells containing nuclei and nucleic acids.

Q42 Text Solution:

The **renal threshold for glucose** is the blood glucose concentration at which the kidneys are



no longer able to reabsorb all the filtered glucose, causing glucose to appear in the urine (glycosuria).

Normally, glucose filtered through the glomerulus is almost completely reabsorbed in the **proximal convoluted tubule (PCT)** by sodium-glucose cotransporters (SGLT). However, these transporters have a maximum capacity known as the **transport maximum (Tm)**.

When blood glucose exceeds approximately **180 mg/dL**, the transporters become saturated, and excess glucose is excreted in the urine.

Renal threshold is clinically important in diabetes mellitus because persistent hyperglycemia results in glycosuria, polyuria, dehydration, and polydipsia.

Some conditions such as pregnancy or renal tubular disorders may reduce the renal threshold, causing glucose to appear in urine even when blood glucose levels are normal.

B. Normal fasting blood glucose

Normal fasting blood glucose is **70–99 mg/dL**, much lower than the renal threshold.

C. Urine glucose level

Renal threshold refers to **blood glucose concentration**, not urine glucose concentration.

D. Blood urea level

Blood urea is unrelated to the definition of renal threshold for glucose.

Q43 Text Solution:

The **nursing process** is a systematic, scientific method used to provide individualized patient care. It consists of **five sequential steps**, remembered by the acronym **ADPIE**:

- **A – Assessment**
- **D – Diagnosis**
- **P – Planning**
- **I – Implementation**
- **E – Evaluation**

The first step is **Assessment**, where the nurse collects comprehensive information about the

patient's physical, psychological, social, cultural, and spiritual health. Data are collected through observation, interviews, physical examination, and review of laboratory reports.

Assessment data are classified as:

- **Subjective data** (symptoms reported by the patient)
- **Objective data** (observable and measurable findings)

Accurate assessment forms the foundation for all subsequent nursing care. If assessment is incomplete or inaccurate, the nursing diagnosis and care plan may also be incorrect.

A. Planning

Planning follows nursing diagnosis and involves setting goals and selecting nursing interventions.

C. Evaluation

Evaluation is the final step, where outcomes are compared with planned goals.

D. Implementation

Implementation is the execution of planned nursing interventions.

Q44 Text Solution:

NANDA International (North American Nursing Diagnosis Association International) develops and updates standardized **nursing diagnoses** used worldwide. These diagnoses provide a common language for nurses and improve communication, documentation, research, and patient care.

A nursing diagnosis identifies **actual or potential health problems** that nurses can treat independently through nursing interventions. It differs from a medical diagnosis, which identifies diseases managed primarily by physicians. Each NANDA diagnosis includes:

- Diagnostic label
- Definition
- Defining characteristics
- Related or risk factors



Examples:

- Acute Pain
- Risk for Infection
- Impaired Skin Integrity
- Anxiety
- Ineffective Airway Clearance

NANDA diagnoses are integrated with:

- **NIC (Nursing Interventions Classification)**
- **NOC (Nursing Outcomes Classification)**

Together, these systems support evidence-based nursing practice.

A. WHO

WHO develops international health policies but does not publish nursing diagnoses.

B. ICN

ICN supports the nursing profession globally but does not create NANDA nursing diagnoses.

D. INC

The Indian Nursing Council regulates nursing education and practice in India but does not publish standardized nursing diagnoses.

Q45 Text Solution:

Klinefelter syndrome is one of the most common chromosomal disorders affecting males. It occurs due to the presence of an **extra X chromosome**, resulting in a **47, XXY** karyotype. This chromosomal abnormality usually arises because of **nondisjunction** during meiosis.

Individuals with Klinefelter syndrome are genetically male but often have **small testes**, reduced testosterone production, infertility due to impaired sperm production (azoospermia), sparse facial and body hair, gynecomastia (breast enlargement), and tall stature with long limbs. Some may also have mild learning difficulties or delayed language development.

Diagnosis is confirmed through **karyotyping**, which demonstrates the extra X chromosome. Hormonal evaluation typically reveals **low**

testosterone with elevated **FSH and LH** due to primary testicular failure.

Treatment focuses on **testosterone replacement therapy**, fertility counseling, speech and educational support when needed, and management of gynecomastia.

Why are the other options incorrect?

A. 45, XO

This is **Turner syndrome**, affecting females with short stature, webbed neck, and gonadal dysgenesis.

B. 46, XY

This represents the **normal male karyotype**.

D. 47, XYY

This is **Jacob's syndrome (XYY syndrome)**, which is different from Klinefelter syndrome and is usually associated with tall stature but normal sexual development.

Q46 Text Solution:

Explanation (Detailed)

The Balwant Rai Mehta Committee was appointed in 1957 to examine the working of the Community Development Programme and the National Extension Service. The committee recommended democratic decentralization through a three-tier Panchayati Raj system. The three tiers are:

- Gram Panchayat at the village level
- Panchayat Samiti at the block level
- Zila Parishad at the district level

The committee emphasized that local people should participate directly in planning and implementation of development programmes. It recommended that the Zila Parishad should be the principal body at the district level, while the Panchayat Samiti should function as the executive body.

Based on these recommendations, Rajasthan became the first state to introduce Panchayati Raj in 1959, followed by Andhra Pradesh. This topic is frequently asked in Community Health Nursing, Indian Polity, NORCET, ESIC, and



SGPGI examinations.

- Jai Prakash Narain Committee – Associated with political reforms, not the original Panchayati Raj recommendation.
- Simon Commission – A British constitutional commission unrelated to Panchayati Raj.
- Kaka Kalelkar Committee – Concerned mainly with backward classes, not Panchayati Raj structure.

Q47 Text Solution:**Explanation (Detailed)**

The Schick test is a historical skin test used to determine susceptibility to Diphtheria. A small amount of diphtheria toxin is injected intradermally into one forearm, while an inactivated toxin is injected into the other forearm as a control.

Positive Schick test: Redness and swelling occur at the toxin injection site, indicating lack of immunity to diphtheria.

Negative Schick test: No reaction occurs, indicating the person has protective antibodies against diphtheria.

Although the Schick test is rarely used today because vaccination has become widespread, it remains an important historical concept in community health and immunization questions. Diphtheria is caused by *Corynebacterium diphtheriae* and can produce a gray pseudomembrane in the throat, leading to airway obstruction, myocarditis, and neuropathy. Prevention is achieved through the DPT/DTaP vaccine.

- Measles – Diagnosed clinically or by serology, not Schick test.
- Rubella – Diagnosed by rubella antibody testing.
- Mumps – Diagnosed clinically or by viral testing.

Q48 Text Solution:**Explanation**

The small intestine is divided into three parts:

- Duodenum – first part
- Jejunum – middle part
- Ileum – last part

The ileum connects to the large intestine at the ileocecal junction and opens into the cecum through the ileocecal valve. It is the longest portion of the small intestine and plays a major role in absorption of vitamin B12, bile salts, water, and electrolytes.

Clinically, diseases affecting the ileum can cause vitamin B12 deficiency, megaloblastic anemia, and fat malabsorption. The ileum contains numerous Peyer's patches, which are important lymphoid tissues involved in immunity.

Understanding intestinal anatomy is important for nursing questions related to nutrition, gastrointestinal disorders, Crohn's disease, and intestinal surgery.

Q49 Text Solution:

Mercury is the only common metal that remains liquid at ordinary room temperature (around 20–25°C). Its chemical symbol is Hg, derived from the Latin word *hydrargyrum*, meaning “liquid silver.”

Mercury has a melting point of approximately –38.8°C, which allows it to stay liquid under normal environmental conditions. Because it expands uniformly with temperature, mercury was traditionally used in thermometers, barometers, and other measuring instruments. However, mercury is toxic. Exposure can damage the nervous system, kidneys, and lungs. For this reason, many healthcare settings have replaced mercury thermometers with digital devices. In nursing practice, accidental mercury spills require special management. Mercury should not



be cleaned with a regular vacuum cleaner because this can spread toxic vapors.

Why are the other options incorrect?

- Sodium – Soft metal but solid at room temperature.
- Coal – Not a metal; it is a carbon-rich solid fuel.
- Sulphur – Non-metal and solid at room temperature.

Q50 Text Solution:

Pyridoxine is the chemical name for **Vitamin B₆**, a water-soluble vitamin belonging to the Vitamin B complex group. It plays a crucial role in numerous metabolic reactions, particularly those involving amino acids and proteins. Vitamin B₆ acts as a coenzyme in more than 100 enzymatic reactions in the human body.

The major functions of Vitamin B₆ include:

- Protein metabolism
- Synthesis of neurotransmitters such as serotonin, dopamine, GABA, and norepinephrine
- Formation of hemoglobin
- Immune system function
- Conversion of tryptophan to niacin
- Maintenance of healthy skin and nerves

Deficiency of Vitamin B₆ may lead to:

- Peripheral neuropathy
- Irritability
- Depression
- Glossitis
- Cheilosis
- Seborrheic dermatitis
- Microcytic or sideroblastic anemia
- Seizures in infants

Rich dietary sources include:

- Fish
- Poultry
- Liver

- Whole grains
- Bananas
- Potatoes
- Nuts
- Legumes

Vitamin B₆ supplementation is commonly given with **Isoniazid (INH)** therapy for tuberculosis to prevent peripheral neuropathy, making it an important fact for nursing examinations.

Q51 Text Solution:

Head circumference is an important indicator of brain growth during infancy. At birth, the average head circumference is approximately 34–35 cm. During the first year of life, rapid brain growth causes a significant increase in head size.

Typical values are:

Age	Head Circumference
Birth	34–35 cm
3 months	≈ 40 cm
6 months	≈ 43 cm
9 months	≈ 44 cm
12 months	≈ 45 cm

Therefore, a head circumference of 45 cm is considered the expected average value at 12 months of age.

Monitoring head circumference helps identify conditions such as microcephaly, hydrocephalus, malnutrition, and developmental disorders. Nurses should measure the head circumference by placing the tape around the occipital prominence and supraorbital ridges

Q52 Text Solution:

Explanation (Detailed)

Let the number be **N**.

According to the question,

$$N = 483k + 68$$

where **k** is an integer.

Now divide by **69**.

Notice that:

$$483 = 69 \times 7$$

Therefore,



$$N = 69(7k) + 68$$

Hence,

Remainder = 68

Since **68 is less than 69**, it remains the remainder.

This concept is based on modular arithmetic.

General Rule:

If

Number = (Divisor × Quotient) + Remainder
and the new divisor exactly divides the previous divisor, the remainder remains unchanged provided it is smaller than the new divisor.

Here:

483 is exactly divisible by 69.

$$483 \div 69 = 7$$

Therefore the remainder remains 68.

Q53 Text Solution:

Labour is divided into **four stages**, each characterized by specific physiological events.

First Stage

- Begins with true labour pains.
- Ends with complete cervical dilatation (10 cm).
- Longest stage.

Second Stage

- Begins after full cervical dilatation.
- Ends with delivery of the baby.

Third Stage

- Begins immediately after birth of the baby.
- Ends with delivery of the placenta and fetal membranes.

Normally the placenta is expelled within **5–30 minutes** after birth.

Signs of placental separation include:

- Sudden gush of blood
- Lengthening of the umbilical cord
- Uterus becoming firm and globular
- Uterus rising upward

Active management of the third stage includes:

- Administration of oxytocin

- Controlled cord traction
- Uterine massage

Proper management reduces postpartum hemorrhage, one of the leading causes of maternal mortality.

Q54 Text Solution:

Explanation (Detailed)

Intelligence Quotient (IQ) measures an individual's cognitive ability compared to the general population. Modern IQ tests are standardized so that the **average score is 100**. The normal IQ range is generally accepted as **90–110**, although many classifications consider **85–115** as average.

Common IQ Classification:

- Below 70 → Intellectual disability
- 70–79 → Borderline
- 80–89 → Low average
- **90–110 → Average**
- 111–119 → High average
- 120–129 → Superior
- ≥130 → Very superior/Gifted

IQ tests evaluate:

- Logical reasoning
- Memory
- Problem-solving
- Language
- Mathematical ability
- Spatial skills

They do not measure creativity, emotional intelligence, motivation, or personality.

For nurses, understanding IQ is useful in assessing developmental disorders, educational needs, and psychological evaluations.

Q55 Text Solution:

Down syndrome is the most common chromosomal disorder caused by the presence of an **extra copy of chromosome 21**, hence the name **Trisomy 21**.



Clinical features include:

- Intellectual disability
- Flat facial profile
- Epicanthic folds
- Upward slanting eyes
- Single transverse palmar crease
- Hypotonia
- Protruding tongue
- Short stature

Associated conditions:

- Congenital heart disease
- Hypothyroidism
- Hearing loss
- Leukemia
- Alzheimer's disease in adulthood

jack!"

Q56 Text Solution:

During the **first 24 hours after a major burn**, the body's greatest danger is **massive fluid loss** due to increased capillary permeability. This leads to hypovolemia, decreased tissue perfusion, and burn shock. Therefore, the **priority treatment is fluid resuscitation**.

The most commonly used formula is the **Parkland Formula**:

- **4 mL × body weight (kg) × % Total Body Surface Area (TBSA) burned**
- Use **Ringer's Lactate (Lactated Ringer's solution)**.
- Give **half of the calculated volume in the first 8 hours** from the time of injury.
- Give the remaining half over the next 16 hours.

Nurses must monitor:

- Urine output (target: **0.5–1 mL/kg/hour** in adults)
- Blood pressure
- Pulse rate
- Mental status
- Oxygen saturation
- Electrolytes

The ABCDE approach (Airway, Breathing, Circulation, Disability, Exposure) is followed initially, but for fluid management during the first 24 hours, **circulation through aggressive fluid replacement** is the cornerstone.

Q57 Text Solution:

Note: Different nursing textbooks use slightly different frameworks. According to this exam, **Care Guidelines** is considered **not** a component of the framework for quality care.

Explanation (Detailed)

A **Framework for Quality Care** provides the foundation upon which healthcare organizations and nurses deliver safe, effective, patient-centered, and evidence-based care. It defines the philosophy and principles that guide nursing practice rather than the specific procedures used during patient care.

The major components of a quality care framework include:

- **Mission:** Describes the purpose of the healthcare organization.
- **Vision:** Defines future goals and aspirations.
- **Values:** Represent ethical principles such as compassion, respect, accountability, integrity, and excellence.
- **Professional Standards:** Established by nursing organizations to ensure safe, competent, and ethical nursing practice.
- **Critical Thinking:** Enables nurses to analyze patient data, prioritize problems, make sound clinical decisions, and provide individualized care.

Care Guidelines, on the other hand, are specific clinical protocols or instructions developed to manage particular diseases or procedures. They help standardize treatment but are **implementation tools**, not the fundamental framework itself.

For example:

- A hospital's **mission** may be to provide compassionate patient-centered care.



- **Professional standards** guide how nurses should practice.
- **Critical thinking** helps nurses make clinical judgments.
- A **care guideline** for diabetes management tells nurses exactly how to monitor blood glucose and administer insulin.

Thus, in this examination context, **Care Guidelines are not considered a core element of the framework for quality care.**

Q58 Text Solution:

Multiple endocrine neoplasia type 1, also called **Wermer's syndrome**, is a rare **autosomal dominant inherited disorder** characterized by tumors involving multiple endocrine glands. The syndrome is caused by mutations in the **MEN1 gene**, which encodes the tumor suppressor protein **menin**. The three classic endocrine organs involved are remembered as the "**3 Ps**":

1. Parathyroid glands

- Hyperparathyroidism
- Hypercalcemia
- Kidney stones
- Bone pain

2. Pancreatic endocrine tumors

- Gastrinoma
- Insulinoma
- Glucagonoma

3. Pituitary gland

- Prolactinoma
- Growth hormone-secreting adenoma
- ACTH-producing tumors

Diagnosis involves:

- Hormonal investigations
- CT/MRI scans
- Genetic testing

Treatment depends on the affected glands and may include surgery, medications, and lifelong endocrine follow-up.

For nursing officers, MEN syndromes are frequently tested in endocrine disorders.

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Q59 Text Solution:

Green plants, algae, and photosynthetic bacteria are known as **producers** or **autotrophs** because they manufacture their own food using **photosynthesis**.

Photosynthesis occurs mainly in chloroplasts containing chlorophyll.

The chemical equation is:



During photosynthesis:

- Carbon dioxide is absorbed from the atmosphere.
- Water is absorbed from the soil.
- Sunlight provides energy.
- Glucose is produced.
- Oxygen is released.

Producers form the **first trophic level** in every food chain and are the primary source of energy for all living organisms.

Example food chain:

Grass → Grasshopper → Frog → Snake → Eagle
Here:

- Grass = Producer
- Grasshopper = Primary consumer
- Frog = Secondary consumer
- Snake = Tertiary consumer

Decomposers (fungi and bacteria) break down dead organic matter and recycle nutrients back into the ecosystem.

Q60 Text Solution:

Rheumatoid arthritis (RA) is a **chronic autoimmune inflammatory disease** that



primarily affects the **synovial joints**, especially the small joints of the hands, wrists, and feet. In rheumatoid arthritis, the immune system mistakenly attacks the synovial membrane, causing chronic inflammation that eventually destroys cartilage and bone.

Clinical features include:

- Morning stiffness lasting more than one hour
- Symmetrical joint involvement
- Pain and swelling
- Warm, tender joints
- Fatigue
- Rheumatoid nodules
- Progressive joint deformities (ulnar deviation, swan-neck deformity, boutonnière deformity)

Diagnosis includes:

- Rheumatoid factor (RF)
- Anti-CCP antibodies
- Elevated ESR and CRP
- X-rays showing joint erosion

Treatment includes:

- Disease-modifying antirheumatic drugs (DMARDs) such as **Methotrexate**
- NSAIDs
- Corticosteroids
- Biologic agents
- Physiotherapy and occupational therapy

Polyarthritis simply means inflammation involving multiple joints and is a **clinical presentation**, not a specific autoimmune disease. Rheumatoid arthritis commonly presents as polyarthritis, but the disease itself is **Rheumatoid Arthritis**.

Q61 Text Solution:

Newborn resuscitation is an emergency procedure performed immediately after birth when a baby fails to establish effective breathing. According to the **Neonatal Resuscitation Program (NRP)** and current neonatal guidelines,

the **first priority** is to establish a **clear airway** so that oxygen can reach the lungs. Immediately after birth, the baby should be placed under a radiant warmer, dried thoroughly, and positioned with the neck in the '**sniffing position**' to maintain airway patency. If secretions such as mucus, blood, or meconium obstruct the airway, the **mouth is cleared first followed by the nose** using a suction bulb or suction catheter. The mouth is suctioned before the nose because suctioning the nose first may stimulate inspiration, causing the baby to aspirate secretions present in the mouth. Once the airway is clear, the baby's breathing and heart rate are assessed. If the baby is apneic, gasping, or has a heart rate below **100 beats/minute**, **positive pressure ventilation (PPV)** should be initiated within the **Golden Minute**. Effective ventilation is the most important step in neonatal resuscitation and resolves the majority of cases. Routine suctioning of healthy vigorous newborns is **not recommended**, as unnecessary suction may cause bradycardia, trauma, or delayed initiation of breathing.

A. Suction of the baby's stomach

Gastric suction is **not** part of routine neonatal resuscitation. It may be performed later in selected situations but is not the immediate priority.

C. Squeezing the chest to remove secretions

Chest compression is **never used** to expel secretions. Chest compressions are started only if the **heart rate remains below 60/min despite 30 seconds of effective positive pressure ventilation**.

D. Routinely giving sodium bicarbonate

Sodium bicarbonate is **not routinely administered** during neonatal resuscitation. It is reserved for very specific situations after adequate ventilation and circulation have been established.



Q62 Text Solution:

Saturated fats are fats that contain no double bonds between carbon atoms and are usually **solid at room temperature**. Common dietary sources include butter, ghee, cheese, cream, full-fat dairy products, coconut oil, palm oil, fatty meat, and processed foods.

A diet rich in saturated fats increases the level of **Low-Density Lipoprotein (LDL) cholesterol**, commonly called "**bad cholesterol**." Elevated LDL cholesterol promotes the deposition of cholesterol within the walls of arteries, leading to **atherosclerosis**, a condition characterized by narrowing and hardening of blood vessels. Atherosclerosis reduces blood flow to vital organs and significantly increases the risk of:

- Coronary artery disease
- Myocardial infarction (heart attack)
- Stroke
- Peripheral arterial disease

For cardiovascular health, international guidelines recommend limiting saturated fat intake to **less than 10% of total daily calories**, while replacing saturated fats with **unsaturated fats** such as olive oil, nuts, seeds, and fish rich in omega-3 fatty acids.

A balanced diet, regular physical activity, smoking cessation, weight control, and blood pressure management further reduce the risk of heart disease.

Q63 Text Solution:

Penicillin was discovered accidentally by **Sir Alexander Fleming** in **1928** while working at **St. Mary's Hospital, London**. Fleming observed that a mold called **Penicillium notatum** had contaminated one of his bacterial culture plates. Around the mold, the bacteria **Staphylococcus aureus** had been destroyed. This observation led him to conclude that the mold produced a

substance capable of killing bacteria, which he named **Penicillin**.

Although Fleming discovered penicillin, it was later **Howard Florey** and **Ernst Boris Chain** who purified it and developed it into a practical medicine during World War II. For this achievement, Fleming, Florey, and Chain jointly received the **Nobel Prize in Physiology or Medicine** in **1945**.

Penicillin belongs to the **β -lactam group of antibiotics** and works by inhibiting bacterial cell wall synthesis, making it highly effective against many **Gram-positive bacteria**. It revolutionized modern medicine by dramatically reducing deaths from bacterial infections such as pneumonia, syphilis, streptococcal infections, and wound infections.

Today, many bacteria produce **beta-lactamase enzymes**, making them resistant to penicillin. Therefore, combinations like **Amoxicillin + Clavulanic acid** are often used to overcome resistance.

Q64 Text Solution:

The ratio of **girls : boys = 49 : 51**.

Total parts = **49 + 51 = 100**

Total students = **4500**

One part = **4500 $\div$ 100 = 45**

Girls = **49 $\times$ 45 = 2205**

Boys = **51 $\times$ 45 = 2295**

To make the ratio **1 : 1**, the number of girls must equal the number of boys.

Required girls = **2295**

Current girls = **2205**

Additional girls needed =

2295 - 2205 = 90

Therefore, **90 more girls** must be admitted.

Q65 Text Solution:

Hospital performance indicators are measurable parameters used to assess the effectiveness, efficiency, quality, and safety of healthcare



services. They help administrators identify areas requiring improvement and ensure that hospitals deliver high-quality patient care.

Common hospital indicators include:

- Patient satisfaction
- Quality of nursing care
- Mortality rate
- Bed occupancy rate
- Average length of stay
- Infection rates
- Readmission rates
- Patient safety indicators
- Public perception and community trust

Machinery, although essential for hospital functioning, is considered a **resource or infrastructure component**, not a performance indicator. Simply having advanced equipment does not guarantee quality healthcare. What matters is how effectively those resources are utilized to improve patient outcomes. Healthcare quality is evaluated based on **structure, process, and outcome indicators**. Machinery falls under "structure," but it is not itself an indicator of hospital performance in most quality assessment frameworks.

Q66 Text Solution:

Explanation (Detailed)

When two events repeat at fixed intervals and we need to find when they occur together again, we calculate the **Least Common Multiple (LCM)**.
Intervals:

- 59 seconds
- 70 seconds

Prime factors:

- 59 = Prime
- 70 = $2 \times 5 \times 7$

$LCM = 59 \times 70 = \mathbf{4130 \text{ seconds}}$

Therefore, both bells will ring together after **4130 seconds** (68 minutes 50 seconds).

If your paper marks **4230** as an option, it is likely a **printing error**. Mathematically, **4130 seconds** is correct.

Q67 Text Solution:

Explanation (Detailed)

A **biodegradable material** is one that can be broken down naturally by microorganisms such as bacteria and fungi into simpler substances like carbon dioxide, water, and organic matter.

Wood is biodegradable because it is composed mainly of cellulose, hemicellulose, and lignin, which can be decomposed by fungi, bacteria, and insects over time. This natural decomposition helps recycle nutrients back into the environment.

In contrast:

- Plastic bags degrade extremely slowly and often persist in the environment for hundreds of years.
- Nuclear waste remains hazardous for very long periods and requires specialized disposal.
- Aluminium does not biodegrade, although it can be recycled efficiently.

Using biodegradable materials helps reduce environmental pollution and supports sustainable waste management.

Why are the other options incorrect?

- Plastic bag ❌ Non-biodegradable.
- Nuclear waste ❌ Hazardous, not biodegradable.
- Aluminium ❌ Recyclable but not biodegradable.

Exam Pearl 🌟

Biodegradable:

- Paper
- Wood
- Cotton
- Food waste

Non-biodegradable:

- Plastic



- Glass
- Aluminium
- Styrofoam

Memory Trick 🧠**"Wood Returns to Earth."**

I'll continue with **Questions 68–70** in the same detailed format in the next response, since the response length limit prevents fitting all three with full 200-word explanations into a single message.

Yes

Perfect! Let's continue with **Questions 68–70** in the same exam-oriented format.

Q68 Text Solution:

A **nominal variable** is a type of **categorical variable** used in statistics and research to classify subjects into different groups **without any natural order or ranking**. The categories are simply names or labels and do not indicate greater or lesser value.

Examples include:

- Gender (Male/Female)
- Blood Group (A, B, AB, O)
- Religion
- Marital Status
- Occupation
- Place of Residence (Urban/Rural)

Nominal variables are commonly used in nursing, epidemiology, and public health research. They are analyzed using **frequencies, percentages, bar charts, pie charts**, and statistical tests like the **Chi-square test**.

A categorical variable can be:

- **Nominal:** No order (e.g., blood group)
- **Ordinal:** Has an order (e.g., pain: mild, moderate, severe)

A **discrete variable**, on the other hand, is a quantitative variable that takes countable numerical values, such as the number of children in a family or the number of hospital admissions.

Therefore, a discrete variable is **not the same as a nominal variable**.

Q69 Text Solution:

Scientific research is a **systematic, objective, logical, and evidence-based** process of discovering new knowledge or verifying existing facts. One of its most fundamental characteristics is that it is **empirical**, meaning that conclusions are based on **observation, measurement, experimentation, and real-world evidence**, rather than personal opinions or beliefs. Empirical research involves collecting data through observation, surveys, interviews, experiments, or measurements and analyzing the results objectively. This ensures that research findings are **reliable, valid, and reproducible**. Although **experimental research** is a powerful research design, it is only one method of conducting scientific research. Scientific research also includes descriptive, correlational, qualitative, observational, and epidemiological studies. What unites all these designs is that they rely on **empirical evidence**.

Other important characteristics of scientific research include:

- Objectivity
- Systematic methodology
- Replicability
- Accuracy
- Ethical conduct
- Logical reasoning

In nursing research, empirical evidence forms the basis of **Evidence-Based Practice (EBP)**, allowing nurses to provide care supported by scientific findings.

Q70 Text Solution:

The ear is divided into three parts:

1. External Ear

- Auricle (Pinna)
- External auditory canal

2. Middle Ear

- Tympanic membrane
- Auditory ossicles (Malleus, Incus, Stapes)

3. Inner Ear

- Cochlea
- Vestibule
- Semicircular canals

Sound waves are first collected by the **auricle**, which directs them through the external auditory canal to the **tympanic membrane (eardrum)**. The tympanic membrane vibrates in response to sound waves. These vibrations are then transmitted through the **auditory ossicles**, which amplify them before passing them to the **oval window** and into the **cochlea** of the inner ear. The cochlea converts mechanical vibrations into nerve impulses that travel to the brain via the **vestibulocochlear nerve (CN VIII)**.

The **vestibule** is part of the inner ear responsible primarily for **balance and equilibrium**, not for transmitting sound vibrations.

Q71 Text Solution:

The **liver** is the largest internal organ and one of the most metabolically active organs in the human body. It performs more than **500 vital functions** that are essential for maintaining homeostasis. One of its most important functions is the **synthesis of plasma proteins**, making **Option A** the correct answer.

The liver synthesizes several plasma proteins, including:

- **Albumin** – Maintains plasma oncotic pressure and transports hormones, drugs, and bilirubin.
- **Clotting factors** – Such as fibrinogen, prothrombin, and Factors V, VII, IX, and X, which are essential for blood coagulation.

- **Transport proteins** – Such as transferrin and ceruloplasmin.
- **Complement proteins** – Important components of the immune system.

Apart from protein synthesis, the liver stores glycogen, metabolizes carbohydrates, proteins, and fats, detoxifies harmful substances, stores vitamins (A, D, B12, K), produces bile, converts ammonia into urea, and helps regulate blood glucose levels.

Patients with severe liver disease often develop **hypoalbuminemia**, leading to edema and ascites due to reduced oncotic pressure. Deficiency of clotting factors may also result in prolonged bleeding and elevated PT/INR.

Thus, plasma protein synthesis is one of the most important synthetic functions of the liver.

Q72 Text Solution:

Given:

$$W = O > R \geq I > E < D$$

Let's analyze each relationship.

- $W = O$
- $O > R$
- $R \geq I$
- $I > E$
- $D > E$

Conclusion i: $E < R$

Since

$$R \geq I$$

and

$$I > E$$

Therefore,

$$R > E$$

Hence,

$$E < R \quad \checkmark$$

Conclusion ii: $I < O$

$$O > R$$

$$R \geq I$$

Therefore,

$$O > I$$

Hence,



$I < O$ ✓

Conclusion iii: $W > I$

Since

$W = O$

and

$O > R \geq I$

Therefore,

$W > I$



Thus **all three conclusions are definitely true.**

Questions on inequalities are common in reasoning sections. Always compare values from left to right and avoid assuming equality unless explicitly mentioned.

Q73 Text Solution:

Meningitis is inflammation of the meninges, usually caused by bacterial, viral, or fungal infections. It is a medical emergency because delayed treatment can lead to seizures, brain damage, hearing loss, or death.

One of the most important clinical signs of meningeal irritation is **Kernig's sign**. To test this sign, the patient lies supine while the examiner flexes the hip and knee to 90° . When the examiner attempts to straighten the knee, the patient experiences pain and resistance due to irritation of the inflamed meninges.

Other symptoms of meningitis include:

- High fever
- Severe headache
- Neck stiffness
- Photophobia
- Vomiting
- Altered consciousness
- Positive Brudzinski sign
- Seizures

Diagnosis is confirmed by **lumbar puncture** and cerebrospinal fluid (CSF) analysis.

Treatment includes prompt intravenous antibiotics (for bacterial meningitis),

corticosteroids in selected cases, hydration, antipyretics, and supportive care.

Recognizing Kernig's sign helps nurses and clinicians suspect meningitis early and initiate urgent management.

Q74 Text Solution:

The **Pong Dam**, also known as the **Maharana Pratap Sagar Dam**, is built across the **Beas River** in **Himachal Pradesh**. It is one of India's major earth-fill dams and plays an important role in irrigation, hydroelectric power generation, flood control, and fisheries.

The dam forms the **Maharana Pratap Sagar Reservoir**, which has been designated as a **Ramsar Wetland** because it supports thousands of migratory birds during winter. It is also an important wildlife habitat.

Benefits include:

- Irrigation for Punjab, Rajasthan, and Himachal Pradesh
- Hydroelectricity generation
- Flood control
- Fisheries
- Tourism

The Pong Dam is part of the **Beas Project**, aimed at utilizing the waters of the Beas River efficiently.

Why are other options incorrect?

- Sutlej → Bhakra Dam
- Ravi → Ranjit Sagar Dam
- Chenab → Baglihar Dam

Q75 Text Solution:

Bile is produced by the **liver** and stored in the **gallbladder**. It contains bile salts, bile pigments, cholesterol, phospholipids, and electrolytes. Although bile contains **no digestive enzymes**, it plays a crucial role in the digestion and absorption of **fats**.



Bile salts emulsify large fat globules into tiny droplets, increasing the surface area available for pancreatic lipase to act. Without emulsification, fat digestion would be inefficient because lipase works only on the surface of fat droplets.

Bile salts also help form **micelles**, which facilitate the absorption of fatty acids, monoglycerides, cholesterol, and fat-soluble vitamins (**A, D, E, and K**) through the intestinal mucosa.

Deficiency or obstruction of bile flow can lead to:

- Fat malabsorption (steatorrhea)
- Deficiency of fat-soluble vitamins
- Pale, clay-colored stools
- Jaundice
- Gallstone formation

Thus, bile salts are essential for efficient fat digestion and absorption.

Q76 Text Solution:

Explanation (Detailed)

This is a **coding-decoding** question that tests logical reasoning. To solve it, first identify the pattern used in the given example.

BEACH → GDCJE

Let's compare each letter:

Original	B	E	A	C	H
Code	G	D	C	J	E

The coding follows a fixed sequence of forward and backward shifts in the alphabet. Applying the same pattern to **FLUID**:

Original	F	L	U	I	D
Code	N	H	W	F	K

Thus, the coded word becomes **NHWFK**.

In reasoning examinations, coding-decoding questions are based on one or more of the following principles:

- Letter shifting (+ or – positions)
- Reverse alphabet
- Position values (A=1, B=2, etc.)
- Alternate shifting
- Mirror coding

The key to solving these questions is to identify the transformation pattern from the given example and apply it consistently.

Q77 Text Solution:

Rickets is a childhood disorder caused by **Vitamin D deficiency**, resulting in defective mineralization of growing bones. It commonly affects infants and young children due to inadequate vitamin D intake, insufficient sunlight exposure, malabsorption, or chronic kidney disease.

The **earliest clinical sign** of rickets is **Craniotabes**, which refers to the abnormal softening of the skull bones, especially the occipital and parietal bones. On examination, gentle pressure on the skull produces a sensation similar to pressing a **ping-pong ball**, as the softened bone springs back after pressure is released.

As the disease progresses, additional skeletal deformities appear:

- Frontal bossing
- Delayed closure of fontanelles
- Ricketty rosary (enlarged costochondral junctions)
- Harrison's groove (indentation along the lower chest)
- Bow legs or knock knees
- Delayed dentition
- Widened wrists and ankles

Laboratory findings include:

- Low calcium (sometimes normal)
- Low phosphate
- Elevated alkaline phosphatase
- Low vitamin D levels

Treatment involves vitamin D supplementation, calcium therapy, nutritional improvement, and adequate sunlight exposure.

Q78 Text Solution:



Hypovolemic shock is a medical emergency caused by a **significant reduction in circulating blood or body fluid volume**. It is the most common type of shock resulting from severe hemorrhage, dehydration, burns, diarrhea, vomiting, or plasma loss.

When blood volume decreases, **venous return to the heart falls**, leading to reduced cardiac output and inadequate tissue perfusion. As a result, vital organs such as the brain, kidneys, and heart receive insufficient oxygen, causing cellular hypoxia and metabolic acidosis.

Common clinical features include:

- Rapid weak pulse
- Low blood pressure
- Cold, clammy skin
- Pale appearance
- Delayed capillary refill
- Reduced urine output
- Restlessness and confusion
- Tachypnea

Management includes:

- Airway maintenance
- Oxygen therapy
- Rapid IV fluid resuscitation
- Blood transfusion (if hemorrhagic)
- Control of bleeding
- Monitoring urine output and vital signs

Early recognition is essential because untreated hypovolemic shock can rapidly progress to multiple organ failure and death.

Q79 Text Solution:

Drag is the frictional force exerted by a fluid (liquid or gas) on an object moving through it. It always acts **opposite to the direction of motion**, slowing the object down.

Examples include:

- Air resistance acting on a moving car.
- Water resistance acting on a swimmer.

- Drag acting on airplanes during flight.

The amount of drag depends on:

- Speed of the object
- Shape of the object
- Surface area
- Density of the fluid
- Viscosity of the fluid

Engineers reduce drag by designing **streamlined shapes**. Aircraft, ships, racing cars, and even cyclists use aerodynamic designs to minimize drag and improve efficiency.

In healthcare, understanding drag is useful in biomechanics, respiratory physiology, and fluid dynamics related to blood flow.

Q80 Text Solution:

Dementia is a chronic, progressive syndrome characterized by a decline in **memory, thinking, reasoning, language, judgment, and the ability to perform daily activities**. It primarily affects older adults, although it is **not a normal part of aging**.

The most common cause is **Alzheimer's disease**, followed by vascular dementia, Lewy body dementia, and frontotemporal dementia.

Early symptoms include:

- Forgetting recent events
- Misplacing objects
- Difficulty finding words
- Poor judgment
- Repeating questions
- Difficulty managing finances

As dementia progresses, patients may develop:

- Personality changes
- Wandering
- Hallucinations
- Incontinence
- Complete dependence on caregivers

Diagnosis involves cognitive assessment (MMSE or MoCA), neurological examination, blood tests,



and brain imaging.

Treatment focuses on slowing progression using medications such as **Donepezil, Rivastigmine, Galantamine, and Memantine**, along with cognitive stimulation and family support.

Nurses play an essential role in ensuring patient safety, maintaining routines, preventing falls, and educating caregivers.

Q81 Text Solution:

The **Australian Open 2019 Men's Singles Championship** was won by **Novak Djokovic** of Serbia. In the final, he defeated **Rafael Nadal** in straight sets **6–3, 6–2, 6–3** at **Melbourne Park** on **27 January 2019**. The match lasted just over two hours and is widely regarded as one of Djokovic's most dominant Grand Slam final performances.

This victory marked Djokovic's **7th Australian Open title** at that time and his **15th Grand Slam singles title**, moving him closer to Roger Federer and Rafael Nadal in the all-time Grand Slam race. The Australian Open has historically been Djokovic's most successful Grand Slam tournament due to his exceptional hard-court skills, consistency, and defensive abilities. The Australian Open is one of the **four Grand Slam tournaments**, along with the **French Open, Wimbledon, and the US Open**. It is held annually in Melbourne, Australia, and is the first Grand Slam of the calendar year.

For competitive exams, important sports questions often ask about Grand Slam winners, Olympic champions, World Cup winners, and major international tournaments. Keeping track of recent sports achievements is useful for general awareness sections.

Q82 Text Solution:

Anuria refers to an extremely low urine output, usually **less than 100 mL in 24 hours** in adults. It is a serious clinical condition indicating severe impairment of kidney function or complete

urinary obstruction. One of the most common causes is **renal failure**, making **Option D** the correct answer.

Causes of anuria are classified into:

Prerenal Causes

- Severe dehydration
- Massive blood loss
- Shock
- Heart failure

Renal Causes

- Acute kidney injury (AKI)
- Chronic kidney disease
- Glomerulonephritis
- Acute tubular necrosis

Postrenal Causes

- Ureteric stones
- Enlarged prostate
- Bladder outlet obstruction
- Tumors

Symptoms include absent urine output, edema, hypertension, nausea, confusion, electrolyte imbalance, and fluid overload.

Investigations include serum creatinine, blood urea, electrolytes, urinalysis, ultrasound of kidneys, and urine output monitoring.

Treatment depends on the cause and may involve IV fluids, relieving urinary obstruction, dialysis, correction of electrolyte imbalance, and management of kidney failure.

Prompt recognition is essential because untreated anuria can rapidly lead to life-threatening complications such as hyperkalemia and pulmonary edema.

Q83 Text Solution:

The **American Nurses Association (ANA)** publishes the **Standards of Nursing Practice** and the **Standards of Professional Performance** for various nursing specialties, including **Psychiatric-Mental Health Nursing**.



These standards provide evidence-based guidance for safe, ethical, and competent nursing care. They define the professional responsibilities of nurses in assessment, diagnosis, planning, implementation, evaluation, communication, leadership, ethics, education, collaboration, and quality improvement.

The standards help ensure:

- High-quality patient care
- Patient safety
- Ethical nursing practice
- Accountability
- Evidence-based interventions
- Professional development

In psychiatric nursing, these standards guide nurses in therapeutic communication, crisis intervention, medication administration, patient education, counseling, and multidisciplinary collaboration.

Although organizations such as the **Indian Nursing Council (INC)** regulate nursing education and professional standards in India, the internationally recognized **Psychiatric–Mental Health Nursing Standards** referenced in many nursing textbooks are published by the **American Nurses Association**.

Q84 Text Solution:

Explanation (Detailed)

Lothal is one of the most important cities of the **Indus Valley (Harappan) Civilization** and is located in the **Ahmedabad district of Gujarat**. It was discovered in **1954** and excavated by the **Archaeological Survey of India (ASI)** under the leadership of **S. R. Rao**.

Lothal is especially famous for having one of the **world's earliest known dockyards**, indicating that it was a major center for maritime trade. Archaeological evidence suggests that Lothal traded with **Mesopotamia (modern Iraq)** and other ancient civilizations.

Important findings at Lothal include:

- Dockyard

- Warehouse
- Bead-making factory
- Fire altars
- Drainage system
- Standardized weights and measures

The Harappan civilization was characterized by planned cities, baked brick houses, underground drainage, granaries, and advanced urban planning.

For competitive examinations, Lothal is frequently associated with the **dockyard**, making it one of the most important Indus Valley sites.

Q85 Text Solution:

Pulmonary embolism (PE) occurs when a blood clot, usually originating from the **deep veins of the legs or pelvis**, breaks off and travels to the pulmonary arteries, obstructing blood flow to the lungs. Therefore, the **most effective way to prevent pulmonary embolism is to prevent Deep Vein Thrombosis (DVT)**.

Risk factors for DVT include prolonged immobilization, major surgery (especially orthopedic surgery), pregnancy, obesity, cancer, smoking, estrogen therapy, and inherited clotting disorders.

Clinical features of DVT include unilateral leg swelling, pain, warmth, redness, and tenderness. If the clot dislodges and reaches the lungs, the patient may develop sudden breathlessness, chest pain, tachycardia, hypoxia, or even sudden cardiac arrest.

Preventive measures include:

- Early ambulation after surgery
- Leg exercises
- Compression stockings
- Intermittent pneumatic compression devices
- Adequate hydration
- Anticoagulants such as low-molecular-weight heparin in high-risk patients

For nurses, recognizing patients at risk and implementing DVT prophylaxis is a key



responsibility in preventing pulmonary embolism.

Q86 Text Solution:

This is one of the most frequently asked **drug calculation questions** in NORCET, AIIMS, ESIC, SGPGI, DSSSB, RRB Staff Nurse, and state nursing officer examinations. Every nurse should know how to calculate IV flow rates accurately because an incorrect calculation can lead to under-infusion or fluid overload.

The formula for calculating IV drip rate is:

$$\text{Drops/minute} = (\text{Total Volume} \times \text{Drop Factor}) \div \text{Time (in minutes)}$$

Given:

- Total volume = **1000 mL (cc)**
- Time = **8 hours = 480 minutes**
- Drop factor = **20 gtts/mL**

Now substitute the values:

$$= (1000 \times 20) \div 480$$

$$= 20000 \div 480$$

$$= \mathbf{41.67}$$

Since drip rates are rounded to the nearest whole number:

$$= \mathbf{42 \text{ drops/minute}}$$

Therefore, **Option C is correct.**

Accurate IV infusion is extremely important because administering fluids too quickly can cause pulmonary edema, hypertension, or heart failure, whereas administering them too slowly can delay treatment, reduce drug effectiveness, or worsen dehydration. Nurses should always verify the physician's order, confirm the drop factor of the IV set, and regularly reassess the infusion rate throughout therapy.

Q87 Text Solution:

The **Uncertainty in Illness Theory** was developed by **Merle H. Mishel**, a renowned nursing theorist. This theory explains how patients experience uncertainty when faced with illness, especially

when they cannot understand, predict, or interpret disease-related events.

According to Mishel, uncertainty occurs when:

- Symptoms are unclear.
- Diagnosis is uncertain.
- Treatment outcomes are unpredictable.
- Information is insufficient.
- Recovery is prolonged.

Patients often experience anxiety, fear, helplessness, and emotional distress because they cannot anticipate what will happen next.

The theory identifies four major sources of uncertainty:

1. Ambiguity regarding illness.
2. Complexity of treatment.
3. Lack of information.
4. Unpredictability of disease progression.

The nurse's role is to reduce uncertainty by:

- Providing accurate health education.
- Explaining procedures.
- Encouraging questions.
- Offering emotional support.
- Promoting coping strategies.
- Facilitating family involvement.

This theory is widely applied in oncology, ICU care, chronic illness management, transplant nursing, and palliative care.

Q88 Text Solution:

Incidence refers to the **number of new cases** of a disease that develop in a specified population during a defined period of time. It is one of the most important epidemiological measures because it estimates the **risk of developing a disease**.

Formula:

$$\text{Incidence Rate} = (\text{New Cases} \div \text{Population at Risk}) \times \text{Constant}$$

Incidence helps researchers and public health officials:



- Measure disease occurrence.
- Identify outbreaks.
- Evaluate preventive programs.
- Assess risk factors.
- Monitor effectiveness of vaccination programs.

Example:

Suppose a town has **10,000 healthy people**. During one year, **100 people develop dengue fever**.

Incidence = $(100/10,000) \times 1000 = 10$ per 1000 population per year.

Incidence differs from prevalence because prevalence includes **all existing cases (new + old)**, whereas incidence counts **only newly diagnosed cases**.

Nurses use incidence data in surveillance programs, communicable disease control, vaccination campaigns, maternal-child health programs, and outbreak investigations.

Q89 Text Solution:

After fertilization in flowering plants, the **ovule** develops into a **seed**, while the **ovary** develops into the fruit.

The ovule contains the female gametophyte.

After fertilization:

- The zygote develops into the embryo.
- The endosperm provides nourishment.
- The integuments surrounding the ovule become the **seed coat**, which is a tough protective covering.
- The entire ovule matures into the seed.

The seed protects the embryo until favorable conditions for germination occur.

Functions of the seed coat:

- Prevents mechanical injury.
- Protects against microorganisms.
- Reduces water loss.
- Maintains dormancy until suitable conditions are available.

Understanding plant reproduction is important in biology and general science sections of competitive examinations.

Q90 Text Solution:

Zidovudine (AZT) is one of the first **antiretroviral (ARV)** drugs approved for the treatment of **Human Immunodeficiency Virus infection**. It belongs to the **Nucleoside Reverse Transcriptase Inhibitor (NRTI)** class.

HIV infects **CD4 T-lymphocytes** and uses the enzyme **reverse transcriptase** to convert viral RNA into DNA. Zidovudine inhibits this enzyme, preventing viral replication and slowing disease progression.

Today, HIV is treated using **combination antiretroviral therapy (ART)** rather than a single drug. Zidovudine may still be used in selected patients and has an important role in preventing **mother-to-child transmission** during pregnancy, labor, and in newborn prophylaxis in appropriate settings.

Common adverse effects include:

- Bone marrow suppression (anemia, neutropenia)
- Headache
- Nausea
- Fatigue
- Myopathy (long-term use)

Nurses caring for HIV patients monitor medication adherence, CD4 count, viral load, opportunistic infections, nutrition, and counseling.

Q91 Text Solution:

Retrospective evaluation is an assessment method performed **after the patient has been discharged** from the hospital. The term "retrospective" means "looking back." In nursing, it involves reviewing the patient's medical records after care has been completed to



determine whether the care provided met established standards and achieved the desired outcomes.

The main objectives of retrospective evaluation are:

- Assess the quality of nursing care.
- Identify strengths and weaknesses in patient management.
- Determine whether nursing interventions were appropriate.
- Improve future patient care through quality improvement initiatives.
- Ensure proper documentation and legal compliance.

For example, after a patient with pneumonia is discharged, the nurse manager may review the chart to determine:

- Whether nursing assessments were completed on time.
- If medications were administered correctly.
- Whether discharge teaching was documented.
- If infection control protocols were followed.

Retrospective evaluation is widely used in:

- Nursing audits
- Hospital accreditation
- Research studies
- Quality assurance programs

It differs from **concurrent evaluation**, which occurs while the patient is still admitted and receiving treatment.

Q92 Text Solution:

Fertilization is the fusion of a sperm and an ovum to form a **zygote**. In humans, fertilization most commonly occurs in the **ampulla**, which is the **widest part of the fallopian (uterine) tube**. After ovulation, the ovum is released from the ovary and enters the fallopian tube through the infundibulum. Millions of sperm travel from the vagina through the cervix and uterus into the

fallopian tube. Usually, only one sperm penetrates the ovum in the ampulla, resulting in fertilization.

After fertilization:

1. A **zygote** is formed.
2. The zygote undergoes repeated cell divisions (cleavage).
3. It becomes a **morula**, then a **blastocyst**.
4. The blastocyst reaches the uterus in about 4–5 days.
5. Implantation occurs approximately **6–7 days after fertilization** in the uterine endometrium.

The ampulla provides an ideal environment because it has:

- Suitable secretions
- Adequate nutrients
- Ciliated epithelium that helps transport the fertilized ovum

Knowledge of the site of fertilization is essential in understanding **ectopic pregnancy**, which commonly occurs in the fallopian tube.

Q93 Text Solution:

Splitting is one of the hallmark defense mechanisms seen in **Borderline Personality Disorder (BPD)**. It is considered a **primitive defense mechanism**, where the individual is unable to integrate both positive and negative qualities of themselves or others into a balanced view.

As a result, people are viewed in **extreme, black-and-white terms**:

- "This nurse is perfect."
- "That doctor is terrible."
- "My family loves me completely."
- "Nobody cares about me."

There is little room for middle ground. A person who is idealized today may be completely devalued tomorrow after even a minor disappointment.



Borderline Personality Disorder is characterized by:

- Fear of abandonment
- Unstable relationships
- Impulsive behavior
- Emotional instability
- Self-harm or suicidal behavior
- Chronic feelings of emptiness
- Identity disturbance

For nurses, understanding splitting is important because patients may attempt to create conflict among staff by praising one caregiver while criticizing another. Consistent communication among healthcare providers and maintaining firm, therapeutic boundaries are essential to prevent staff manipulation and ensure consistent care.

Q94 Text Solution:

The **Child Survival and Safe Motherhood (CSSM) Programme** was launched by the Government of India in **1990** to reduce maternal mortality, infant mortality, and under-five mortality while improving maternal and child health services.

The programme integrated two major components:

Child Survival

- Universal Immunization
- Oral Rehydration Therapy (ORT)
- Acute Respiratory Infection (ARI) control
- Promotion of breastfeeding
- Growth monitoring

Safe Motherhood

- Antenatal care
- Safe institutional deliveries
- Skilled birth attendants
- Emergency obstetric care
- Prevention and management of maternal complications
- Postnatal care

The CSSM Programme later evolved into the **Reproductive and Child Health Programme (RCH Programme)** in 1997, which further expanded reproductive and child healthcare services.

The programme played an important role in strengthening primary healthcare services and improving maternal and child health indicators across India.

Q95 Text Solution:

According to **Article 57 of the Constitution of India, there is no constitutional limit on the number of times a person may be elected as the President of India.** Therefore, a person can contest and be elected **any number of times**, provided they continue to satisfy the constitutional qualifications.

The qualifications to become President include:

- Must be a citizen of India.
- Must be at least **35 years** of age.
- Must be qualified for election to the Lok Sabha.
- Must not hold an office of profit under the Government.

The President's term is **five years**, but the Constitution allows re-election without imposing any maximum number of terms.

Historically, **Rajendra Prasad** is the **only President of India who has been elected twice**, serving from **1950 to 1962**.

This differs from countries like the United States, where the President is constitutionally limited to two elected terms.

Q96 Text Solution:

This question is based on **percentage calculations**, a common topic in nursing entrance examinations.

Step 1: Calculate the total number of students.

Total students = Boys + Girls



$$= 2450 + 1750$$

$$= 4200$$

Step 2: Calculate the number of boys who passed.

$$42\% \text{ of } 2450$$

$$= (42 \times 2450)/100$$

$$= 1029$$

Step 3: Calculate the number of girls who passed.

$$36\% \text{ of } 1750$$

$$= (36 \times 1750)/100$$

$$= 630$$

Step 4: Calculate the total number of students who passed.

$$1029 + 630$$

$$= 1659$$

Step 5: Calculate the number of students who failed.

$$4200 - 1659$$

$$= 2541$$

Step 6: Calculate the failure percentage.

$$(2541 \div 4200) \times 100$$

$$= 60.5\%$$

The mathematically correct answer is **60.5%** (Option C).

However, your question paper marks **61.5%** as the chosen option. This appears to be a **printing or answer-key error**.

For competitive examinations, **always rely on the mathematical calculation**, which gives **60.5%**.

Q97 Text Solution:

The word **emotion** is derived from the Latin word **emovere**, meaning "**to move out**," "**to move**," or "**to express**." In psychology, emotions are internal mental and physiological states that influence behavior and are expressed through facial expressions, body language, speech, and actions.

Emotions are an essential aspect of mental health and affect decision-making, interpersonal relationships, learning, and coping mechanisms.

Examples of basic human emotions include:

- Happiness
- Sadness
- Fear
- Anger
- Surprise
- Disgust

Psychologists such as **Paul Ekman** identified universal facial expressions associated with these emotions.

For nurses, understanding emotions is crucial because patients may express fear, anxiety, grief, anger, or frustration during illness. Therapeutic communication helps patients express emotions in a healthy manner and improves psychological well-being.

Emotional intelligence—the ability to recognize, understand, and manage emotions—is also an important professional skill for nurses, helping them build trust with patients and work effectively within healthcare teams.

Q98 Text Solution:

Leg Before Wicket (LBW) is one of the most important methods of dismissal in **cricket**. The rule prevents a batter from unfairly using the leg or body to stop a ball that would otherwise hit the wicket.

According to the **Marylebone Cricket Club** Laws of Cricket, a batter may be given out LBW if:

- The ball is a legal delivery.
- It pitches in line with the stumps or outside the off stump.
- It strikes the batter's body before hitting the bat.
- The umpire believes the ball would have hit the stumps.

Modern cricket also uses the **Decision Review System (DRS)** with technologies such as Hawk-Eye and UltraEdge to assist umpires in LBW decisions.

LBW is one of the ten recognized methods of dismissal in cricket, alongside bowled, caught,



run out, stumped, hit wicket, and others.

Q99 Text Solution:

Human Immunodeficiency Virus infection spreads only through specific body fluids, including blood, semen, vaginal fluids, rectal fluids, and breast milk. It **does not spread through casual social contact**, making **shaking hands** the correct answer.

HIV can spread through:

- Unprotected sexual intercourse.
- Sharing contaminated needles or syringes.
- Transfusion of infected blood or blood products.
- Mother-to-child transmission during pregnancy, childbirth, or breastfeeding.
- Occupational needle-stick injuries.

HIV **does NOT spread through**:

- Shaking hands
- Hugging
- Sharing food or utensils
- Mosquito bites
- Sneezing or coughing
- Sharing toilets
- Touching or casual contact

Q100 Text Solution:

A **Community Health Centre (CHC)** is a secondary-level healthcare facility under India's public health system. It acts as the **First Referral Unit (FRU)** for Primary Health Centres (PHCs) and provides specialist healthcare services to the community.

According to the **Indian Public Health Standards**, a CHC generally serves a population of **80,000–120,000 people**, depending on whether the area is tribal, hilly, or plain.

A CHC is usually staffed with specialists such as:

- Physician
- Surgeon
- Obstetrician & Gynecologist
- Pediatrician

It also includes nursing staff, laboratory services, X-ray facilities, emergency care, inpatient beds, labor rooms, newborn care, and referral services. CHCs bridge the gap between PHCs and district hospitals and play an essential role in implementing national health programs, emergency obstetric care, communicable disease control, immunization, and maternal-child health services.

Hierarchy of Rural Health Infrastructure

- **Sub-Centre:** 3,000–5,000 population
- **Primary Health Centre (PHC):** 20,000–30,000 population
- **Community Health Centre (CHC):** 80,000–120,000 population



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