रेलवे भर्ती बोर्ड / RAILWAY RECRUITMENT BOARD
सी ई एन नं. - 04/2024 - CEN No. - 04/2024

Test Date	30/04/2025
Test Time	4:30 PM - 6:00 PM
Subject	LABORATORY ASSISTANT GRADE II

*** Note**
Correct Answer will carry 1 mark per Question.
Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.
2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : **General Ability**

Q.1 **Which of the following tissue is composed of the brain and the spinal cord?**

Ans
✗ 1. Muscular tissue
✓ 2. Nervous tissue
✗ 3. Connective tissue
✗ 4. Epithelial tissue

Q.2 **Which of the following tissues covers the lining of the mouth?**

Ans
✗ 1. Cuboidal epithelium
✗ 2. Connective tissue
✓ 3. Squamous epithelium
✗ 4. Columnar epithelium

Q.3 **Which of the following Articles of the Indian Constitution prescribes the procedure for amending the Constitution when required?**

Ans
✗ 1. Article 32
✗ 2. Article 356
✗ 3. Article 246
✓ 4. Article 368

Q.4 **Which one of the following correctly defines weather?**

Ans
✗ 1. A measure of the atmospheric trends over several decades
✗ 2. The long-term average condition of the atmosphere over years
✓ 3. A short-term atmospheric condition of a place defined by one or more environmental elements
✗ 4. A uniform condition shared by adjacent regions at all times

Q.5 **_____ light produces a spectrum similar to sunlight.**

Ans
✗ 1. All
✗ 2. Blue
✓ 3. White
✗ 4. Yellow

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Q.6 Seven friends, S, T, U, V, W, X and Y, are sitting around a circular table facing the centre. T sits third to the right of S. X sits to the immediate right of T. U is an immediate neighbour of both W and X. Y sits to the immediate left of V. How many people sit between V and W when counted from the right of V.

Ans
✔ 1. Three
✘ 2. Two
✘ 3. Four
✘ 4. One

Q.7 What was the main goal of the Rio Summit 1992 and its follow-up conferences?

Ans
✔ 1. Sustainable development in all ecosystems
✘ 2. Establishment of global trade organisations
✘ 3. Expansion of industries
✘ 4. Elimination of international borders

Q.8 EROT is related to IUSW in a certain way based on the English alphabetical order. In the same way, UDEF is related to YGII. To which of the following options is GMQO related, following the same logic?

Ans
✔ 1. KPUR
✘ 2. KIUY
✘ 3. KUPR
✘ 4. KRUP

Q.9 An unknown element Y has a mass number of 23 and 12 neutrons. Which of the following statements is correct?
A. It has 12 protons.
B. It has 11 electrons in its neutral state.
C. Element Y is magnesium.

Ans
✘ 1. Only B and C
✘ 2. Only A
✔ 3. Only B
✘ 4. Only A and B

Q.10 P, Q and R can do a work in 20 days, 30 days and 40 days, respectively. They finished that work together and got ₹52,000 as wages. Find R's wage.

Ans
✘ 1. ₹11,000
✘ 2. ₹14,000
✔ 3. ₹12,000
✘ 4. ₹10,000

Q.11 Based on the English alphabetical order, three of the following four letter cluster pairs are alike in a certain way and thus form a group. Which is the one that DOES NOT belong to that group?
(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

Ans
✘ 1. DY – HD
✘ 2. LN – PS
✔ 3. KT – OX
✘ 4. FV – JA

Q.12 13 bags and 17 pens together cost ₹1670, whereas 9 bags and 7 pens together cost ₹808. The cost of 17 bags exceeds the cost of 5 pens by:

Ans
✘ 1. ₹194
✔ 2. ₹196
✘ 3. ₹201
✘ 4. ₹191

Q.13 Which of the following factors in some reptiles can change the sex of developing eggs?

Ans
- ✔ 1. Temperature
- ✘ 2. Water
- ✘ 3. Wind
- ✘ 4. Pressure

Q.14 If '+' means 'subtraction', '−' means 'multiplication', '×' means 'division' and '÷' means 'addition', then what will come in place of the question mark (?) in the following equation?

25 × 5 ÷ 13 − 3 + 14 = ?

Ans
- ✘ 1. 40
- ✘ 2. 15
- ✘ 3. 44
- ✔ 4. 30

Q.15 Which navigation satellite did ISRO launch in January 2025 to enhance India's positioning system?

Ans
- ✘ 1. GSAT-12
- ✘ 2. IRNSS-1G
- ✘ 3. Cartosat-3
- ✔ 4. NVS-02

Q.16 Read the following statements regarding baking soda. Identify which of these statements is correct.
Statement 1: Baking soda is a mild base that reacts with acids to release a gas.
Statement 2: The gas released in this reaction is responsible for making dough rise in baking.

Ans
- ✘ 1. Neither Statement 1 nor 2
- ✘ 2. Only Statement 2
- ✔ 3. Both Statements 1 and 2
- ✘ 4. Only Statement 1

Q.17 Find the number of bricks, each measuring 35 cm × 20 cm × 50 cm, required to construct a wall 49 m long, 51 m high and 0.3 m thick, while the sand and cement mixture occupies 30% of the total volume of wall.

Ans
- ✔ 1. 14994
- ✘ 2. 15163
- ✘ 3. 15025
- ✘ 4. 14951

Q.18 Name the Pallava-built temple located in Mahabalipuram.

Ans
- ✔ 1. Shore Temple
- ✘ 2. Vaikuntha Perumal Temple
- ✘ 3. Brihadeshwara Temple
- ✘ 4. Kailashnath Temple

Q.19 $The\ value\ of\ \left(\frac{5}{8}\right) \times \left(\frac{24}{25}\right) + \left(\frac{6}{5} - 4\right) is:$

Ans
1. $-\frac{17}{12}$
2. $-\frac{11}{5}$
3. $-\frac{13}{9}$
4. $-\frac{9}{13}$

Q.20 **A man sold an article for ₹912 by first giving a d% discount on its marked price, and then another discount having the same nominal value (in ₹). If the marked price of the article is ₹3800, then what is the value of d?**

Ans
1. 40
2. 38
3. 42
4. 43

Q.21 **Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.**

Statements:
Some walls are floors.
All floors are ceilings.

Conclusions:
(I): Some ceilings are walls.
(II): All ceilings are floors.

Ans
1. Only conclusion (I) follows
2. Neither conclusion (I) nor (II) follows
3. Only conclusion (II) follows
4. Both conclusions (I) and (II) follow

Q.22 **What is the primary focus of the 6th Edition of India-Japan joint military exercise, Dharma Guardian?**

Ans
1. Space defense and missile technology
2. Cybersecurity and information warfare
3. Counter-terrorism operations in urban terrain and UN peacekeeping drills
4. Naval warfare operations

Q.23 **Which of the following statements is NOT correct about a current-carrying straight conductor?**

Ans
1. The magnetic field lines form concentric circles around the conductor.
2. The magnetic field strength decreases as the distance from the conductor increases.
3. The magnetic field strength remains the same at all distances from the wire.
4. The magnetic field strength increases as the current through the wire increases.

Q.24 Which sector of the Indian economy has been providing the highest employment compared to other sectors?

Ans
- ✗ 1. Secondary Sector
- ✓ 2. Primary Sector
- ✗ 3. Manufacturing Sector
- ✗ 4. Tertiary Sector

Q.25 Which government program received a ₹200 crore increase in funding in the 2025-26 Union Budget, bringing its total allocation to ₹1,000 crore, to enhance grassroots sports development in India?

Ans
- ✗ 1. Target Olympic Podium Scheme
- ✓ 2. Khelo India Programme
- ✗ 3. Fit India Movement
- ✗ 4. National Sports Development Fund

Q.26 Against which British Act did Gandhiji decide to launch a nationwide satyagraha in 1919, advocating non-violent civil disobedience against such unjust laws?

Ans
- ✗ 1. Government of India Act, 1919
- ✗ 2. Pitts India Act, 1784
- ✗ 3. Morley-Minto Reforms, 1909
- ✓ 4. Rowlatt Act, 1919

Q.27 Three prism kept in similar orientation will split white light into how many color components?

Ans
- ✗ 1. 21
- ✗ 2. It does not split the white light
- ✗ 3. 14
- ✓ 4. 7

Q.28 In a precipitation reaction, the solid that forms is called:

Ans
- ✗ 1. electrolyte
- ✗ 2. filtrate
- ✓ 3. precipitate
- ✗ 4. solvent

Q.29 Which of the following is a constitutional body established directly by the Constitution of India?

Ans
- ✗ 1. NITI Aayog
- ✗ 2. Central Vigilance Commission
- ✓ 3. Election Commission of India
- ✗ 4. National Human Rights Commission

Q.30 Glucose is broken down into pyruvic acid in the cytoplasm. This pyruvic acid is converted into ethanol and carbon dioxide by _____.

Ans
- ✓ 1. Yeast through fermentation.
- ✗ 2. Mitochondria through fermentation
- ✗ 3. Amoeba through fermentation
- ✗ 4. Mitochondria through aerobic respiration

Section : **Professional Ability**

Q.1 **Which of the following is the correct practice when collecting capillary blood from an infant?**

Ans
- ✗ 1. Use the same site for repeated collections within 24 hours
- ✗ 2. Perform the puncture on the big toe
- ✗ 3. Use the centre of the heel to ensure adequate blood flow
- ✓ 4. Use the lateral or medial plantar surface of the heel

Q.2 **The linea alba extends from:**

Ans
- ✓ 1. xiphoid process to pubic symphysis
- ✗ 2. costal margin to umbilicus
- ✗ 3. pubic symphysis to umbilicus
- ✗ 4. umbilicus to xiphoid process

Q.3 **Which of the following conditions is most commonly screened using a routine urine test?**

Ans
- ✗ 1. Hypertension
- ✗ 2. Tuberculosis
- ✓ 3. Diabetes mellitus
- ✗ 4. Asthma

Q.4 **The anticoagulant that binds to factor IV of blood coagulation and is used for complete blood count (CBC) test is:**

Ans
- ✗ 1. Heparin
- ✗ 2. Oxalate
- ✗ 3. Sodium citrate
- ✓ 4. EDTA

Q.5 **Which of the following best defines a disinfectant?**

Ans
- ✓ 1. A chemical used on inanimate objects to destroy or inhibit microorganisms
- ✗ 2. A chemical used on the skin to kill bacteria
- ✗ 3. An antibiotic used to treat infections internally
- ✗ 4. A substance used to sterilise surgical instruments

Q.6 **Which of the following media is preferred for pus sample culture in suspected anaerobic infections?**

Ans
- ✗ 1. Nutrient agar
- ✗ 2. Mannitol salt agar
- ✓ 3. Blood agar and anaerobic media like Robertson's cooked meat broth
- ✗ 4. MacConkey agar

Q.7 **In stool examination, the presence of stringy mucus with minimal blood is most consistent with:**

Ans
- ✓ 1. Irritable Bowel Syndrome (IBS)
- ✗ 2. Typhoid fever
- ✗ 3. Ulcerative colitis
- ✗ 4. Giardia infection (Giardiasis)

Q.8 **Which of the following chemical grades is most suitable for analytical laboratory work?**

Ans
- ✓ 1. Analytical reagent (AR) grade
- ✗ 2. Laboratory grade
- ✗ 3. Technical grade
- ✗ 4. Commercial grade

Q.9 How does alcohol-based disinfectant primarily act on microorganisms?

Ans
- ✗ 1. By forming reactive oxygen species
- ✗ 2. By disrupting DNA synthesis
- ✗ 3. By chelating essential metal ions
- ✓ 4. By denaturing proteins and dissolving lipid membranes

Q.10 Which of the following is the most common cause of microcytic hypochromic anaemia?

Ans
- ✗ 1. Vitamin B12 deficiency
- ✓ 2. Iron deficiency
- ✗ 3. Hemolytic anaemia
- ✗ 4. Aplastic anaemia

Q.11 What is the significance of detecting nitrites in urine during a dipstick test?

Ans
- ✗ 1. It suggests a parasitic infection
- ✗ 2. It indicates kidney stones
- ✗ 3. It confirms pregnancy
- ✓ 4. It indicates bacterial urinary tract infection

Q.12 In a patient with macrocytic anaemia, which of the following laboratory findings is most consistent with Vitamin B12 deficiency?

Ans
- ✗ 1. Elevated reticulocyte count
- ✓ 2. Hypersegmented neutrophils
- ✗ 3. Low homocysteine levels
- ✗ 4. Normal methylmalonic acid levels

Q.13 In the Rh blood group system, what does an 'Rh-negative' status indicate?

Ans
- ✓ 1. Absence of D antigen
- ✗ 2. Presence of C and E antigens only
- ✗ 3. Presence of D antigen in plasma
- ✗ 4. Absence of A and B antigens

Q.14 What is the major hazard of using mercury thermometers in labs?

Ans
- ✓ 1. Toxic vapor inhalation
- ✗ 2. Corrosive spill
- ✗ 3. Electrical hazard
- ✗ 4. Radioactivity

Q.15 What is the first step in preparing a standard solution?

Ans
- ✗ 1. Heating the solvent
- ✗ 2. Filtering the mixture
- ✓ 3. Weighing the solute accurately
- ✗ 4. Adding buffer to adjust pH

Q.16 What is the shelf life of Platelet Concentrate at 20-24°C with agitation?

Ans
- ✗ 1. 5 hours
- ✓ 2. 5 days
- ✗ 3. 10 days
- ✗ 4. 1 month

Q.17 Which of the following is a critical parameter assessed during the quality control of a newly prepared culture medium?

Ans
- ✔ 1. Growth promotion test using reference strains
- ✘ 2. Ambient humidity during storage
- ✘ 3. Brand of Petri dish used
- ✘ 4. Type of incubator used in previous batch testing

Q.18 When preparing a phosphate buffer, what combination is typically used?

Ans
- ✘ 1. Sodium acetate and hydrochloric acid
- ✘ 2. Ammonium chloride and sodium hydroxide
- ✔ 3. Monobasic sodium phosphate and dibasic sodium phosphate
- ✘ 4. Tris and ethanol

Q.19 Which enzyme is most specific for hepatic injury?

Ans
- ✔ 1. ALT
- ✘ 2. ALP
- ✘ 3. AST
- ✘ 4. GGT

Q.20 What does pH measure in a solution?

Ans
- ✘ 1. The salt concentration
- ✘ 2. The boiling point
- ✘ 3. The buffer capacity
- ✔ 4. The hydrogen ion activity

Q.21 Which of the following statements best describes an essential characteristic of a good disinfectant for hospital use?

Ans
- ✘ 1. It should corrode metals to ensure deep cleaning.
- ✘ 2. It should be inactivated quickly by organic material.
- ✔ 3. It should be effective against spores, bacteria, viruses, and fungi.
- ✘ 4. It should require prolonged exposure time to act effectively.

Q.22 A buffer is prepared by mixing 0.1 M acetic acid (pKa = 4.76) with 0.1 M sodium acetate. What is the pH of this buffer?

Ans
- ✔ 1. 4.76
- ✘ 2. 5.76
- ✘ 3. 3.76
- ✘ 4. 4.00

Q.23 Which guideline should be followed for the use of blood components during massive transfusion?

Ans
- ✘ 1. Use only cryoprecipitate
- ✔ 2. Maintain a 1:1:1 ratio of RBCs, plasma, and platelets
- ✘ 3. Always use whole blood
- ✘ 4. Transfuse only plasma

Q.24 Which factor does not significantly affect the rate of decalcification?

Ans
- ✘ 1. Concentration of decalcifying agent
- ✘ 2. Temperature
- ✘ 3. Size and density of the tissue
- ✔ 4. Type of microtome used

Q.25 Which of the following hormones is secreted by the anterior pituitary gland?

Ans
- ✗ 1. Oxytocin
- ✗ 2. Melatonin
- ✓ 3. Prolactin
- ✗ 4. ADH (Vasopressin)

Q.26 In cholesterol estimation, a serum sample should ideally be:

Ans
- ✗ 1. Coagulated and mixed with ethanol
- ✓ 2. Non-hemolysed and tested fresh or refrigerated
- ✗ 3. Lipemic and frozen immediately
- ✗ 4. Hemolysed and stored at room temperature

Q.27 What distinguishes USP grade chemicals from CP grade chemicals?

Ans
- ✓ 1. USP grade complies with pharmacopoeia standards
- ✗ 2. CP grade has lower purity than USP grade
- ✗ 3. USP grade is only used in food industries
- ✗ 4. CP grade is more pure and costlier than USP grade

Q.28 CSF samples for bacterial culture should ideally be:

Ans
- ✗ 1. Refrigerated before processing
- ✓ 2. Processed immediately without refrigeration
- ✗ 3. Incubated immediately at 4°C
- ✗ 4. Stored in formalin

Q.29 Which of the following findings best differentiates anaemia of chronic disease (ACD) from iron deficiency anaemia (IDA)?

Ans
- ✗ 1. Increased erythropoietin levels
- ✓ 2. Low total iron-binding capacity (TIBC)
- ✗ 3. Low serum iron
- ✗ 4. Low serum ferritin

Q.30 If you prepare 50 mL of 0.2M solution from a 1M stock, how much stock do you need?

Ans
- ✗ 1. 5 mL
- ✓ 2. 10 mL
- ✗ 3. 2.5 mL
- ✗ 4. 20 mL

Q.31 A sample is diluted 1:5, then 1 ml of this dilution is further diluted 1:4. What is the final dilution factor?

Ans
- ✓ 1. 20
- ✗ 2. 5
- ✗ 3. 15
- ✗ 4. 10

Q.32 Which of the following is a commonly used dye in the negative staining technique?

Ans
- ✗ 1. Methylene blue
- ✓ 2. India Ink
- ✗ 3. Crystal violet
- ✗ 4. Safranin

Q.33 A 45-year-old woman presents with weight gain, moon face, and hypertension. Her serum cortisol levels are elevated and not suppressed by low-dose dexamethasone. What is the most likely diagnosis?

Ans
- ✗ 1. Pheochromocytoma
- ✗ 2. Addison's disease
- ✓ 3. Cushing's syndrome
- ✗ 4. Hyperthyroidism

Q.34 What is the primary use of an analytical balance in a medical laboratory?

Ans
- ✗ 1. Measuring temperature of reagents
- ✓ 2. Weighing chemicals with high precision
- ✗ 3. Separating serum from blood
- ✗ 4. Determining the pH of solutions

Q.35 What is the pH meter primarily used to measure?

Ans
- ✗ 1. Concentration of glucose in blood
- ✗ 2. Salinity of a solution
- ✓ 3. Acidity or alkalinity of a solution
- ✗ 4. Oxygen content in water

Q.36 Which of the following actions is most important for accurate pH measurement?

Ans
- ✗ 1. Using distilled water only for calibration
- ✗ 2. Cleaning the electrode with alcohol before every use
- ✓ 3. Calibrating the meter using standard buffer solutions before use
- ✗ 4. Shaking the pH meter vigorously before use

Q.37 Neisser's stain is specifically used to detect which bacterial component?

Ans
- ✗ 1. Flagella
- ✓ 2. Metachromatic granules
- ✗ 3. Capsule
- ✗ 4. Endospore

Q.38 What is the main purpose of using an autoclave in a medical laboratory?

Ans
- ✗ 1. To sterilise media and equipment using dry heat
- ✗ 2. To cool down culture media
- ✗ 3. To dry laboratory glassware
- ✓ 4. To sterilise materials using high-pressure steam

Q.39 Which pipette type is NOT graduated and NOT used for volume measurement?

Ans
- ✗ 1. Micropipette
- ✗ 2. Ostwald pipette
- ✗ 3. Mohr pipette
- ✓ 4. Pasteur pipette

Q.40 Capillary blood collection is typically used for which of the following purposes?

Ans
- ✗ 1. Liver function test
- ✗ 2. Blood culture
- ✗ 3. Coagulation profile
- ✓ 4. Glucose estimation

Q.41 How much of a 10X stock solution is needed to make 100 mL of 1X working solution?

Ans
- ✗ 1. 5 mL
- ✗ 2. 1 mL
- ✓ 3. 10 mL
- ✗ 4. 20 mL

Q.42 Which of the following muscles is primarily responsible for unlocking the knee joint during the initiation of flexion?

Ans
- ✗ 1. Rectus femoris
- ✗ 2. Gastrocnemius
- ✗ 3. Biceps femoris
- ✓ 4. Popliteus

Q.43 Which of the following best differentiates an antiseptic from a disinfectant?

Ans
- ✗ 1. Disinfectants are always alcohol-based; antiseptics are not.
- ✗ 2. Antiseptics are more potent than disinfectants.
- ✗ 3. Antiseptics are used only in surgical procedures.
- ✓ 4. Antiseptics are used on living tissues, while disinfectants are used on inanimate surfaces.

Q.44 What is the primary goal of blood transfusion SOPs?

Ans
- ✗ 1. Minimising staff
- ✗ 2. Reducing time
- ✗ 3. Maximising product cost
- ✓ 4. Ensuring patient safety

Q.45 Which of the following best explains why enzymatic methods for total cholesterol estimation may yield inaccurate results in samples with high bilirubin levels?

Ans
- ✓ 1. Bilirubin interferes with the colorimetric detection step due to spectral overlap
- ✗ 2. Bilirubin oxidises cholesterol before measurement
- ✗ 3. Bilirubin directly competes with cholesterol for enzyme binding
- ✗ 4. Bilirubin precipitates cholesterol esters, lowering free cholesterol levels

Q.46 What is the primary purpose of the in-use test for disinfectants in a clinical setting?

Ans
- ✓ 1. To monitor microbial contamination of disinfectants during use
- ✗ 2. To check the shelf-life of disinfectants
- ✗ 3. To determine the cost-effectiveness of the disinfectant
- ✗ 4. To evaluate its colour stability

Q.47 Which of the following hormones is primarily responsible for stimulating the release of bile from the gallbladder?

Ans
- ✗ 1. Gastrin
- ✗ 2. Motilin
- ✗ 3. Secretin
- ✓ 4. Cholecystokinin (CCK)

Q.48 Absolute eosinophil count is primarily used to detect:

Ans
- ✗ 1. Leukaemia
- ✗ 2. Anaemia
- ✗ 3. Diabetes mellitus
- ✓ 4. Parasitic infections and allergies

Q.49 A person with blood group A can safely receive blood from which of the following donor types?

Ans
- ✗ 1. AB and A
- ✗ 2. B and O
- ✗ 3. AB and O
- ✓ 4. O and A

Q.50 What is the correct way to prepare 1 L of 1 M NaCl solution? (M.mass of NaCl is 58.5 g/mol)

Ans
- ✓ 1. Weigh 58.5 g NaCl, dissolve in water, and make up to 1 L
- ✗ 2. Dissolve 29.25 g NaCl in 100 ml of water and make up to 1 L
- ✗ 3. Mix 29.25 g NaCl in 1 L ethanol
- ✗ 4. Use 1 mL of NaCl stock and dilute to 1 L

Q.51 Which principle is primarily used in automated blood cell counters for counting cells?

Ans
- ✗ 1. Chromatography
- ✓ 2. Electrical impedance
- ✗ 3. Spectrophotometry
- ✗ 4. Immunofluorescence

Q.52 What does standardization of laboratory glassware ensure?

Ans
- ✗ 1. Breakage resistance
- ✗ 2. Aesthetic appeal
- ✓ 3. Exact volume measurements
- ✗ 4. Color coding

Q.53 The primary pathogen identified in throat swab cultures of suspected pharyngitis is:

Ans
- ✓ 1. *Streptococcus pyogenes*
- ✗ 2. *Haemophilus influenzae*
- ✗ 3. *Klebsiella pneumoniae*
- ✗ 4. *Staphylococcus epidermidis*

Q.54 In a clinical laboratory, sodium citrate (3.2% or 3.8%) is used as an anticoagulant primarily for which of the following tests?

Ans
- ✓ 1. Erythrocyte Sedimentation Rate (ESR) by Westergren method
- ✗ 2. Liver function tests
- ✗ 3. Blood glucose estimation
- ✗ 4. Reticulocyte count

Q.55 Which of the following statements about the Rh(D) antigen is correct?

Ans
- ✓ 1. It is highly immunogenic and can cause severe hemolytic disease of the fetus and newborn (HDFN).
- ✗ 2. It is weakly expressed in all individuals regardless of genotype.
- ✗ 3. It is present on white blood cells and platelets.
- ✗ 4. It is an IgM-mediated antigen and does not cross the placenta.

Q.56 A raised serum urea with normal creatinine suggests:

Ans
- ✗ 1. Acute tubular necrosis
- ✗ 2. Glomerulonephritis
- ✗ 3. Chronic kidney disease
- ✓ 4. Dehydration

Q.57 Which of the following is a distinguishing feature of bacterial dysentery in stool microscopy?

Ans
- ✗ 1. Presence of ova and cysts
- ✓ 2. Presence of neutrophils and RBCs
- ✗ 3. Watery stool without blood
- ✗ 4. Presence of eosinophils

Q.58 If the $[H^+]$ concentration of a solution is 1×10^{-9} mol/L, what is the pH?

Ans
- ✗ 1. 0.9
- ✗ 2. 1.9
- ✓ 3. 9.0
- ✗ 4. 9.9

Q.59 Proteinuria is best detected using which of the following tests?

Ans
- ✗ 1. Barfoed's test
- ✓ 2. Sulfosalicylic acid test
- ✗ 3. Molisch test
- ✗ 4. Benedict's test

Q.60 Which of the following bacterium is correctly matched with its shape ?

Ans
- ✗ 1. Streptococcus pneumoniae – Rod-shaped
- ✗ 2. Vibrio cholerae – Spherical
- ✗ 3. Bacillus subtilis – Spiral
- ✓ 4. Treponema pallidum – Spirochete

Q.61 The pterygoid processes are part of which cranial bone?

Ans
- ✗ 1. Ethmoid
- ✗ 2. Occipital
- ✓ 3. Sphenoid
- ✗ 4. Temporal

Q.62 Which of the following is a commonly used general-purpose culture medium in routine microbiology laboratories?

Ans
- ✗ 1. Sabouraud Dextrose Agar
- ✓ 2. Nutrient Agar
- ✗ 3. Thiosulfate Citrate Bile Salts Sucrose Agar (TCBS Agar)
- ✗ 4. MacConkey Agar

Q.63 A 10 ml pipette consistently delivers 10.2 ml. What action should be taken?

Ans
- ✗ 1. Use it for qualitative tests
- ✗ 2. Autoclave it
- ✗ 3. Discard it
- ✓ 4. Recalibrate or mark error

Q.64 What is the main advantage of using negative staining in microbiology?

Ans
- ✓ 1. To visualize cell structures without heat fixing
- ✗ 2. To observe bacterial endospores
- ✗ 3. To differentiate Gram-positive from Gram-negative bacteria
- ✗ 4. To stain intracellular inclusions

Q.65 Which of the following bones forms the posterior part of the hard palate?

Ans
- ✗ 1. Zygomatic
- ✗ 2. Vomer
- ✓ 3. Palatine
- ✗ 4. Maxilla

Q.66 Which of the following must be taken into account when preparing a reagent solution used in enzymatic assays?

Ans
- ✗ 1. Exact temperature during preparation
- ✗ 2. Only the solvent's density
- ✗ 3. pH of water used for dissolution
- ✓ 4. Stability and reactivity of the components

Q.67 What is the dilution factor if 1 mL of serum is added to 9 mL of diluent?

Ans
- ✗ 1. 0.1
- ✗ 2. 100
- ✗ 3. 1.0
- ✓ 4. 10

Q.68 Which component in a colorimeter is responsible for selecting the specific wavelength of light used to analyze the sample?

Ans
- ✗ 1. Sample holder
- ✓ 2. Filter or monochromator
- ✗ 3. Photocell
- ✗ 4. Light source

Q.69 Which of the following is a necessary precaution while using phenolic disinfectants in healthcare environments?

Ans
- ✓ 1. Avoid use in neonatal units due to skin absorption risk
- ✗ 2. Dilute with alcohol for faster evaporation
- ✗ 3. Always mix with detergents to improve solubility
- ✗ 4. Store in metal containers to prevent evaporation

Q.70 Which of the following is a special stain used specifically for detecting acid-fast organisms such as Mycobacterium tuberculosis?

Ans
- ✗ 1. PAS stain
- ✓ 2. Ziehl-Neelsen stain
- ✗ 3. Masson's Trichrome
- ✗ 4. Alcian Blue