Q.1 A wave has a wavelength of 0.5 m and a frequency of 200 Hz. Its speed is _____ .

Ans
- ✔ 1. 100 m/s
- ✘ 2. 200 m/s
- ✘ 3. 400 m/s
- ✘ 4. 50 m/s

Q.2 A pipe can fill a tank in 6 hours. Another pipe can empty the filled tank in 42 hours. If both the pipes are opened simultaneously, then the time (in hours) in which the tank will be filled is:

Ans
- ✘ 1. 8
- ✘ 2. 9
- ✘ 3. 10
- ✔ 4. 7

Q.3 Which of the following is the primary international body that promotes global trade liberalization and economic globalization?

Ans
- ✔ 1. World Trade Organization (WTO)
- ✘ 2. European Free Trade Association (EFTA)
- ✘ 3. Shanghai Cooperation Organization (SCO)
- ✘ 4. African Continental Free Trade Area (AfCFTA)

Q.4 Below are given two sets of numbers. In each set of numbers, a certain mathematical operation on the first number results in the second number. Similarly, certain mathematical operation on the second number results in the third number and so on. Which of the given options follows the same set of operations as in question? (NOTE – A two/three digit number cannot be broken into individual digits for operations, e.g. if 37 is followed by 10, the operation cannot be 3+7 as a two digit number cannot be broken into individual digits.)
5 - 10 - 20 - 40 ; 3 - 6 - 12 - 24

Ans
- ✘ 1. 3 - 6 - 12 - 23
- ✔ 2. 6 - 12 - 24 - 48
- ✘ 3. 11 - 22 - 24 - 28
- ✘ 4. 6 - 10 - 12 - 14

Q.5 Which of the following groups represents Indo-Aryan languages primarily spoken in the eastern region of India?

Ans
✗ 1. Konkani, Marathi, Gujarati
✓ 2. Assamese, Bengali, Odia
✗ 3. Assamese, Konkani, Odia
✗ 4. Bengali, Maithali, Konkani

Q.6 The total surface area of 12 cubes and 17 cuboids is 968 sq. cm. Each cuboid is formed by joining two cubes face to face. If the length of each side of a cube is 'a' cm, then find the value of $\frac{a^3}{4} \times \frac{8-a}{4-a}$.

Ans
✗ 1. 2
✓ 2. 6
✗ 3. 8
✗ 4. 4

Q.7 Which Indian film actress won the 70th Filmfare Best Actor in a Leading Role (Female) award in 2025?

Ans
✗ 1. Kangana Ranaut
✗ 2. Radhika Apte
✓ 3. Alia Bhatt
✗ 4. Yami Gautam

Q.8 Which Amendment Act made elementary education a fundamental right under Article 21A, mandating free and compulsory education for all children aged 6 to 14 years?

Ans
✗ 1. 104th Amendment
✓ 2. 86th Amendment
✗ 3. 73rd Amendment
✗ 4. 101st Amendment

Q.9 अमित ने समान धनराशि को साधारण ब्याज और वार्षिक रूप से संयोजित चक्रवृद्धि ब्याज पर 8% की समान वार्षिक ब्याज दर से 2 वर्षों के लिए निवेश किया। अंत में, उसे अर्जित दोनों ब्याज दरों के बीच ₹52 का अंतर प्राप्त होता है। प्रत्येक स्थिति में निवेश की गई धनराशि (₹ में) कितनी थी?

Ans
✗ 1. 7375
✗ 2. 7225
✗ 3. 8475
✓ 4. 8125

Q.10 By applying Newton's law of gravitation to a falling object at the surface of the Earth, the acceleration due to gravity is given by $g = GM / R^2$. The symbol M represents the mass of the:

Ans
✗ 1. Sun
✗ 2. Falling object
✓ 3. Earth
✗ 4. Moon

Q.11 Each vowel in the word CURTAIL is changed to the letter immediately following it in the English alphabetical order and each consonant is changed to the letter immediately preceding it in the English alphabetical order. Which of the following letters will be third from the right in the new group of letters thus formed?

Ans
✗ 1. C
✓ 2. B
✗ 3. D
✗ 4. A

Q.12 Which statement best explains why non-metallic oxides generally react with bases?

Ans
✗ 1. Non-metallic oxides do not react with bases
✗ 2. Non-metallic oxides are basic in nature
✗ 3. Non-metallic oxides are neutral in nature
✓ 4. Non-metallic oxides are acidic in nature

Q.13 A neuron consists of a cell body, a nucleus, and many short, branched parts called _____.

Ans
✗ 1. flagella
✓ 2. dendrites
✗ 3. cilia
✗ 4. villi

Q.14 Where did India begin Exercise MAITREE-XIV with Thailand in 2025?

Ans
✓ 1. Meghalaya
✗ 2. Arunachal Pradesh
✗ 3. Assam
✗ 4. Sikkim

Q.15 What is the maximum number of electrons that can be present in the third shell (n=3) of an atom?

Ans
✓ 1. 18
✗ 2. 8
✗ 3. 2
✗ 4. 32

Q.16 Which of the following physiographic divisions is a part of the Peninsular Plateau?

Ans
✗ 1. The Northern Plains
✗ 2. The Himalayan Mountains
✗ 3. The Islands
✓ 4. The Central Highlands

Q.17 What should come in place of '?' in the given series based on the English alphabetical order?
JHK PNQ VTW BZC ?

Ans
✔ 1. HFI
✘ 2. GEQ
✘ 3. HGK
✘ 4. GFN

Q.18 The average of five numbers is 30. If one of the numbers is 34, what is the average of the remaining four numbers?

Ans
✘ 1. 31
✘ 2. 27
✘ 3. 28
✔ 4. 29

Q.19 Which branch of chemistry deals with the study of elements and compounds that do not contain carbon-hydrogen bonds?

Ans
✘ 1. Organic chemistry
✘ 2. Physical chemistry
✘ 3. Biochemistry
✔ 4. Inorganic chemistry

Q.20 The gravitational force (F) between two objects with mass m_1 and m_2 ; is always _____ .

Ans
✘ 1. Sometimes attractive, sometimes repulsive
✘ 2. Repulsive
✔ 3. Attractive
✘ 4. Zero

Q.21 All 69 people are standing in a row facing north. Tanay is 31st from the right end, while Lomasi is 28th from the left end. How many people are there between Tanay and Lomasi?

Ans
✗ 1. 25
✗ 2. 12
✓ 3. 10
✗ 4. 24

Q.22 किसी परिपथ में, यदि प्रतिरोध आधा कर दिया जाए और वोल्टेज समान रहे, तो शक्ति में क्या परिवर्तन होगा?

Ans
✗ 1. शक्ति समान रहेगी।
✗ 2. शक्ति चार गुना हो जाएगी।
✓ 3. शक्ति दोगुनी हो जाएगी।
✗ 4. शक्ति आधा हो जाएगी।

Q.23 In a certain code language,
A + B means 'A is the son of B'
A − B means 'A is the wife of B'
A @ B means 'A is the daughter of B'
A # B means 'A is the mother of B'
Based on the above, how is S related to K if 'S + W # Y @ K'?

Ans
✗ 1. Husband
✗ 2. Brother
✗ 3. Father
✓ 4. Son

Q.24 If fertilisation does not occur, what happens to the thickened uterine lining in females?

Ans
✓ 1. It sheds as blood and mucous in menstruation
✗ 2. It is absorbed back into the body slowly
✗ 3. It hardens and forms scar tissue
✗ 4. It remains in the uterus permanently

Q.25 Which among the following is NOT a land resource?

Ans
- ✗ 1. Water
- ✗ 2. Minerals
- ✗ 3. Soil
- ✓ 4. Sunlight

Q.26 In 2025, India launched a homegrown microprocessor called DHRUV64. What is its key feature?

Ans
- ✗ 1. 64-bit solar-powered chip
- ✓ 2. 64-bit dual-core microprocessor
- ✗ 3. 64-bit wireless data chip
- ✗ 4. 64-bit blockchain microprocessor

Q.27 Which constitutional amendment established an urban local government system in India in 1992?

Ans
- ✗ 1. 73rd Constitutional Amendment Act
- ✗ 2. 68th Constitutional Amendment Act
- ✗ 3. 65th Constitutional Amendment Bill
- ✓ 4. 74th Constitutional Amendment Act

Q.28 Both skeletal and cardiac muscles have striations. Which feature distinguishes cardiac muscle from skeletal muscle?

Ans
- ✗ 1. Multiple nuclei per cell
- ✓ 2. Uninucleate
- ✗ 3. Voluntary control
- ✗ 4. Absence of nucleus

Q.29 The largest four-digit number which when divided by 14, 9 and 8 leaves remainder 2 in each case is:

Ans
✗ 1. 9964
✗ 2. 9234
✗ 3. 9584
✓ 4. 9578

Q.30 In which year was the East India Company founded to engage in trade with India and East and Southeast Asia?

Ans
✗ 1. 1605
✓ 2. 1600
✗ 3. 1615
✗ 4. 1610

Section : Professional Ability

Q.1 How does the addition of a co-emulsifier like cetyl alcohol affect an emulsion?

Ans
✗ 1. It turns oil-in-water to water-in-oil type
✓ 2. It improves the stability of the emulsion
✗ 3. It increases the solubility of oil phase
✗ 4. It decreases the viscosity significantly

Q.2 According to Stokes' law, which change will most effectively reduce the rate of creaming in an emulsion?

Ans
✓ 1. Decreasing the size of the droplets
✗ 2. Increasing the density difference between phases
✗ 3. Increasing the droplet size
✗ 4. Decreasing the viscosity of the external phase

Q.3 Why is the mouth of the fermentation vessel covered with muslin cloth during preparation of Arista and Asava?

Ans
- ✗ 1. To maintain temperature
- ✗ 2. To enhance sweetness
- ✓ 3. To allow air exchange and prevent contamination
- ✗ 4. To prevent evaporation

Q.4 Which class of appetite suppressants does fluoxetine belong to?

Ans
- ✓ 1. Central serotonin pathway drugs
- ✗ 2. Amphetamines
- ✗ 3. Sympathomimetic drugs
- ✗ 4. Central catecholamine pathway drugs

Q.5 When using a super centrifuge for separating oil and water emulsions, what operational parameter most significantly affects the sharpness of phase separation?

Ans
- ✗ 1. Diameter of the feed tube
- ✓ 2. Rotational speed of the centrifuge bowl
- ✗ 3. Temperature of the feed mixture
- ✗ 4. Viscosity of the lubricating oil

Q.6 Which mechanism is suggested as one way fiber can lower plasma cholesterol?

Ans
- ✓ 1. Binding bile acids
- ✗ 2. Increasing blood glucose
- ✗ 3. Increasing protein synthesis
- ✗ 4. Reducing water intake

Q.7 Which of following is commonly used as an antiseptic in surgical scrubs?

Ans
✗ 1. Ethylene oxide
✓ 2. Chlorhexidine
✗ 3. Sodium hypochlorite
✗ 4. Phenol

Q.8 When submitting a herbal medicinal product for marketing authorization in Europe requiring efficacy comparable to conventional medicines, which guideline applies?

Ans
✗ 1. ICH Q10 Pharmaceutical Quality System
✗ 2. ICH S7A Safety Pharmacology Studies
✗ 3. EU Regulation 536/2014 on clinical trials
✓ 4. EU Directive 2001/83/EC as amended by Directive 2004/24/EC

Q.9 Why are aminoglycosides generally not effective against anaerobic bacteria?

Ans
✗ 1. Anaerobic bacteria lack a cell wall
✓ 2. Aminoglycosides require oxygen-dependent transport to enter cells
✗ 3. Anaerobes produce more protein than aerobes
✗ 4. Aminoglycosides are inactivated by anaerobes

Q.10 What is the role of plasmids in the application of rDNA technology in pharmaceutical biotechnology?

Ans
✗ 1. Nutrients for cell growth
✗ 2. Enzymes for digestion
✗ 3. Markers for identification
✓ 4. Vectors for gene transfer

Q.11 Which of the following is an external factor influencing consumer buying behaviour?

Ans
- ✗ 1. Attitude
- ✗ 2. Personal motivation
- ✗ 3. Perception
- ✓ 4. Economic changes

Q.12 Which combination of biological factors must be considered together when designing a controlled drug deli system for oral use?

Ans
- ✓ 1. Gastrointestinal motility and enzyme activity
- ✗ 2. Tablet weight and shape
- ✗ 3. Capsule size and taste
- ✗ 4. Storage temperature and humidity

Q.13 Which of the following concentration range of sucrose acts as a self preservative in monophasic liquid dosa forms?

Ans
- ✗ 1. 50-55%
- ✗ 2. 40-45%
- ✗ 3. 20-30%
- ✓ 4. 60-85%

Q.14 Which statement best describes an advantage of biphasic systems over monophasic systems?

Ans
- ✗ 1. Have no risk of microbial growth
- ✗ 2. Do not need flavoring agents
- ✓ 3. Can deliver insoluble drugs
- ✗ 4. Are always clear solutions

Q.15 Which symptom is commonly associated with acute myocardial infarction?

Ans
✗ 1. Intermittent cough
✗ 2. Frequent urination
✓ 3. Severe chest pain
✗ 4. Fever

Q.16 Which of following processes is required for clarifying injectable solutions by removing submicron contaminants?

Ans
✗ 1. Gravity sedimentation tank
✗ 2. Drying oven at high temperature
✗ 3. Slow-speed mixer with filter paper
✓ 4. Super centrifuge operating at maximum safe rotational speed

Q.17 A patient with significant weight loss due to cancer is started on an appetite stimulant. Which of the following drugs, a progestational agent, is most appropriate for this indication?

Ans
✗ 1. Orlistat
✓ 2. Megestrol acetate
✗ 3. Lorcaserin
✗ 4. Naltrexone

Q.18 What is the effect of adding a small amount of strong acid to a buffer solution of acetic acid and sodium acetate?

Ans
✗ 1. The pH drops sharply to acidic value
✗ 2. The pH remains exactly the same
✓ 3. The pH settles near its original value
✗ 4. The pH increases significantly

Q.19 If a compound inhibits the site between cytochrome b and c1, which of the following is most likely that compound?

Ans
✗ 1. Cyanide
✓ 2. Antimycin A
✗ 3. Malonate
✗ 4. Rotenone

Q.20 Which of the following is NOT typically used as a flavor in oral monophasic liquids?

Ans
✗ 1. Strawberry
✓ 2. Copper sulfate
✗ 3. Vanilla
✗ 4. Orange

Q.21 If poorly water soluble drugs are formulated as emulsions then which of the following is a major advantage of using emulsions as a biphasic liquid dosage form?

Ans
✗ 1. They always mask the taste of all drugs completely
✗ 2. They require no special storage conditions
✗ 3. They are less expensive to manufacture than all other dosage forms
✓ 4. They enhance dissolution rates and bioavailability of the drug

Q.22 Which of the following best describes the difference between the alphabetical classification of drugs in the European Pharmacopoeia and the United States Pharmacopeia (U.S.P.)?

Ans
✗ 1. Both use Latin names
✗ 2. U.S.P. uses scientific names, European Pharmacopoeia uses common names
✗ 3. Both use English names
✓ 4. European Pharmacopoeia uses Latin names, U.S.P. uses English names

Q.23 Which of the following is NOT typically considered an Operational Qualification test for an HPLC unit?

Ans
- ✗ 1. Detector wavelength accuracy
- ✗ 2. Gradient linearity
- ✗ 3. Pump flow rate
- ✓ 4. Routine analytical tests

Q.24 What is the main goal of using rDNA technology in pharmaceuticals?

Ans
- ✗ 1. To increase tablet size
- ✗ 2. To change tablet color
- ✗ 3. To improve taste of medicines
- ✓ 4. To produce therapeutic proteins

Q.25 According to the code of pharmaceutical ethics, which of these statements is NOT allowed in advertising for medicines?

Ans
- ✓ 1. Misleading claim
- ✗ 2. Storage instructions
- ✗ 3. Product origin
- ✗ 4. Shelf-life information

Q.26 Which of the following is a commonly used antiplatelet drug?

Ans
- ✗ 1. Paracetamol
- ✓ 2. Aspirin
- ✗ 3. Metformin
- ✗ 4. Furosemide

Q.27 Aldehydes and ketones both undergo nucleophilic addition reactions. Which property do they both share that enables this reaction?

Ans
- ✔ 1. Presence of a carbonyl group
- ✘ 2. Presence of an alkene group
- ✘ 3. Presence of an ether group
- ✘ 4. Presence of a carboxyl group

Q.28 In the context of alphabetical classification, what is the primary advantage?

Ans
- ✘ 1. Previous and successive drug entries are related
- ✘ 2. Pharmacological action of drugs can be identified
- ✔ 3. Easy retrieval of drug information
- ✘ 4. Biological source can be traced

Q.29 Which organization establishes the Code of Pharmaceutical Ethics regarding advertising and displays in India?

Ans
- ✔ 1. Pharmacy Council of India
- ✘ 2. Indian Pharmacopoeia Commission
- ✘ 3. Central Drugs Standard Control Organisation
- ✘ 4. Medical Council of India

Q.30 Evaluate the following scenario: An elderly patient is prescribed a high-fibre diet for chronic constipation. Which precaution should be emphasized to avoid adverse effects?

Ans
- ✘ 1. Restrict fibre intake if taking calcium supplements to prevent mineral binding interactions.
- ✔ 2. Ensure adequate fluid intake to prevent gastrointestinal obstruction.
- ✘ 3. Increase fibre intake rapidly to maximize benefits.
- ✘ 4. Take fibre supplements immediately before bedtime to enhance overnight bowel movement.

Q.31 If a patient indicates myocardial infarction due to cocaine use, which etiological category does this fall under?

Ans
- ✔ 1. Drug-induced ischemia
- ✘ 2. Peripheral vascular disease
- ✘ 3. Nonmodifiable risk factor
- ✘ 4. Coronary artery anomaly

Q.32 What is the primary purpose of using chemical methods in sterilization?

Ans
- ✔ 1. To eliminate microorganisms
- ✘ 2. To improve nutrient content of media
- ✘ 3. To remove visible dirt
- ✘ 4. To remove toxic residues

Q.33 Which adverse effect is most commonly associated with the long-term use of antiplatelet drugs?

Ans
- ✘ 1. Hyperglycemia
- ✘ 2. Hypertension
- ✔ 3. Bleeding
- ✘ 4. Constipation

Q.34 If a chemist identifies a molecule as both a proton donor and an electron-pair acceptor, which two acid-base concepts does this relate to?

Ans
- ✘ 1. Arrhenius and Lewis
- ✘ 2. Arrhenius and Bronsted-Lowry
- ✔ 3. Bronsted-Lowry and Lewis
- ✘ 4. Earlier and Arrhenius

Q.35 Which statement best describes Bronsted acids in the context of acid catalysis?

Ans
✗ 1. Bronsted acids are only H+ ions
✗ 2. Bronsted acids are always undissociated
✗ 3. Bronsted acids are proton acceptors
✓ 4. Bronsted acids are proton donors that can cause acid catalysis

Q.36 Which of the following best describes the composition of Schiff's reagent used in detecting aldehydes?

Ans
✗ 1. Alkaline solution of cupric ion complexed with sodium potassium tartrate ions
✗ 2. Ammoniacal solution of silver oxide
✗ 3. Alkaline solution of cupric ion complexed with citrate ions
✓ 4. Rosalinine hydrochloride dissolved in water

Q.37 Which of the following is considered ethical in pharmaceutical advertising according to the Code?

Ans
✗ 1. Promoting off-label uses
✗ 2. Comparing with non-pharmaceutical products
✓ 3. Providing balanced information about drug use
✗ 4. Concealing side effects

Q.38 Which of the following statements best describes the mechanism of acid-base catalysis in the hydrolysis of esters?

Ans
✓ 1. A proton is transferred from the acid catalyst to the carbonyl oxygen, increasing electrophilicity and facilitating nucleophilic attack.
✗ 2. The base catalyst adds a hydroxide ion to the ester, forming a stable intermediate that halts the reaction.
✗ 3. The base catalyst removes a proton from the alcohol group, reducing nucleophilicity and inhibiting the reaction.
✗ 4. The acid catalyst donates an electron pair to the carbonyl group, decreasing its reactivity.

Q.39 Which of the following acids has the lowest pKa value, indicating the highest acid strength?

Ans
- ✔ 1. Sulphuric acid
- ✘ 2. Citric acid
- ✘ 3. Acetic acid
- ✘ 4. Formic acid

Q.40 What is the influence of food in stomach on drug delivery system?

Ans
- ✔ 1. May alter the rate and extent of drug bioavailability
- ✘ 2. Change the enteric coating of drug
- ✘ 3. Change the intrinsic permeability of intestinal membrane
- ✘ 4. Alter the color of drug

Q.41 According to the Lewis acid-base concept, a Lewis acid is defined as a/an:

Ans
- ✘ 1. Proton acceptor
- ✔ 2. Electron acceptor
- ✘ 3. Proton donor
- ✘ 4. Electron donor

Q.42 A dietitian is tasked with planning meals for a client who needs increased stool bulk and also wants to help manage blood cholesterol. Which of the following combination of foods best meets both requirements?

Ans
- ✘ 1. Refined pasta and cheese
- ✘ 2. White bread and butter
- ✘ 3. Eggs and grilled chicken
- ✔ 4. Whole grain cereals and oats

Q.43 How can temperature fluctuations during storage destabilize a suspension?

Ans
✔ 1. They can cause particle growth or Ostwald ripening, affecting particle size distribution and polymorphic form.
✘ 2. They make all particles dissolve completely.
✘ 3. They increase the viscosity of the suspension, making it more stable.
✘ 4. They permanently eliminate all risks of particle caking.

Q.44 A pharmacist needs to distinguish between an unknown sample of aldehyde and ketone. Which chemical test would provide a positive result only for aldehydes and not for ketones?

Ans
✘ 1. Schiff's test
✔ 2. Tollen's reagent test
✘ 3. Sodium nitroprusside test
✘ 4. Iodoform test

Q.45 A consumer's negative experience with side effects from a drug leads to avoidance of all similar products. Which characteristic explains this behavior?

Ans
✘ 1. Preference for attractive packaging
✘ 2. Increased price sensitivity toward medicines
✘ 3. Influence of celebrity endorsement
✔ 4. Influence of past experience on future choices

Q.46 Methotrexate and Riboflavin are unsuitable for sustained release because they are absorbed through:

Ans
✘ 1. Paracellular diffusion
✘ 2. Passive diffusion
✔ 3. Active transport
✘ 4. Pinocytosis

Q.47 A pharmacy student is given a list of medicinal plants and asked to organize them for quick reference in a drug store. Which classification system should he use to ensure drugs are easy to locate ?

Ans
- ✓ 1. Alphabetical classification
- ✗ 2. Chemical classification
- ✗ 3. Taxonomical classification
- ✗ 4. Morphological classification

Q.48 Which of the following are used as in-vitro anticoagulants?

Ans
- ✗ 1. Indandione derivatives
- ✗ 2. Coumarin derivatives
- ✗ 3. Phenindione
- ✓ 4. Calcium complexing agents

Q.49 Which of the following is a typical symptom of acute myocardial infarction that helps distinguish it from angina pectoris?

Ans
- ✓ 1. Sudden severe chest pain lasting more than 20 minutes
- ✗ 2. Pain only during deep breathing
- ✗ 3. Chest pain relieved by rest
- ✗ 4. Mild chest discomfort after exercise

Q.50 Which property makes glutaraldehyde suitable for sterilizing medical equipment?

Ans
- ✗ 1. Low boiling point for easy evaporation
- ✗ 2. Selective activity against spores only
- ✓ 3. Broad-spectrum antimicrobial action including spores
- ✗ 4. Narrow-spectrum antimicrobial action

Q.51 Which of the following best defines a drug?

Ans
- ✗ 1. A substance that causes addiction
- ✗ 2. A nutrient essential for growth
- ✗ 3. A chemical used in laboratory experiments
- ✓ 4. A substance used to diagnose, prevent, or treat diseases

Q.52 Which compounds react with the oxidized form of cytochrome oxidase?

Ans
- ✓ 1. Cyanide and azide
- ✗ 2. Antimycin A and BAL
- ✗ 3. Rotenone and amytal
- ✗ 4. Carbon monoxide and piercidin A

Q.53 A patient receives a subcutaneous drug injection. To enhance drug absorption, the nurse co-administers hyaluronidase. What is the primary effect of this enzyme?

Ans
- ✗ 1. It decreases blood flow to the site
- ✓ 2. It increases drug-tissue contact area by breaking down connective tissue
- ✗ 3. It induces local vasoconstriction
- ✗ 4. It promotes drug precipitation at the site

Q.54 A pharmacist is tasked with choosing an appropriate indicator for titrating a weak acid with a strong base. Which factor should most influence their choice?

Ans
- ✗ 1. The cost of the indicator
- ✗ 2. The color of the indicator
- ✗ 3. The container material used
- ✓ 4. The pH range at the equivalence point

Q.55 What is the sequence of the four stages of equipment qualification as per ICH and US FDA guidelines, which ensures reliability during manufacturing?

Ans
- ✗ 1. Installation, performance, operational & design
- ✗ 2. Design, installation, performance & operational
- ✗ 3. Installation, operational, performance & design
- ✓ 4. Design, installation, operational & performance

Q.56 Which initial step is involved in the preparation of Arista according to Ayurvedic formulation?

Ans
- ✗ 1. Adding honey at the beginning
- ✗ 2. Directly fermenting whole herbs
- ✓ 3. Coarsely powdering the drugs and preparing kasaya
- ✗ 4. Dissolving sugar in water

Q.57 In a clinical scenario where bacteria produce aminoglycoside acetyltransferase, which aminoglycoside would likely retain efficacy and why?

Ans
- ✗ 1. Neomycin, due to its high polarity
- ✗ 2. Gentamicin, because it has no amino groups
- ✓ 3. Amikacin, due to its L-hydroxyaminobutyryl group at N-1
- ✗ 4. Streptomycin, due to absence of 2-deoxystreptamine nucleus

Q.58 Why is the kasaya strained before being kept in the fermentation vessel during Arista preparation?

Ans
- ✗ 1. To increase temperature rapidly
- ✓ 2. To remove solid particles and obtain a clear liquid for fermentation
- ✗ 3. To reduce sugar content
- ✗ 4. To initiate fermentation early

Q.59 What is the recognition sequence for the restriction endonuclease EcoRI?

Ans
- ✗ 1. CCTAGG
- ✓ 2. GAATTC
- ✗ 3. ATCGAT
- ✗ 4. GCGCGC

Q.60 What best describes a proprietary (brand) name in pharmacology?

Ans
- ✓ 1. It is the name given by the manufacturer and is their trademark.
- ✗ 2. It is the chemical structure name of the drug.
- ✗ 3. It is the name given by the government agency.
- ✗ 4. It is the universally accepted scientific name.

Q.61 Which of the following is an irreversible instability in emulsions?

Ans
- ✗ 1. Flocculation
- ✗ 2. Creaming
- ✗ 3. Phase inversion
- ✓ 4. Cracking

Q.62 During an acid-base titration, a student uses a weak acid and a strong base. What will be the pH at the equivalence point?

Ans
- ✗ 1. Depends on initial concentration of acid
- ✓ 2. Greater than 7
- ✗ 3. Exactly 7
- ✗ 4. Less than 7

Q.63 Which parameter is affected when an acid catalyst is added to a reaction?

Ans
- ✗ 1. Temperature
- ✗ 2. Enthalpy change
- ✓ 3. Activation energy
- ✗ 4. Free energy

Q.64 What is a key advantage of rectal drug administration compared to oral?

Ans
- ✗ 1. It always has faster onset than intravenous
- ✗ 2. It is suitable for all drugs
- ✗ 3. It eliminates all first-pass metabolism
- ✓ 4. It can be used when a patient is vomiting

Q.65 Which of the following ICH guidelines covers the design and conduct of clinical trials for herbal drugs?

Ans
- ✗ 1. Multidisciplinary (M) Guidelines
- ✗ 2. Quality (Q) Guidelines
- ✓ 3. Efficacy (E) Guidelines
- ✗ 4. Safety (S) Guidelines

Q.66 Which activity is specifically included under the Quality Guidelines for herbal drug assessment?

Ans
- ✗ 1. Preparation of Common Technical Document
- ✗ 2. Genotoxicity studies
- ✗ 3. Clinical trial conduct
- ✓ 4. Botanical identification

Q.67 Which of the following is commonly used as a neutral preservative in monophasic liquid dosage forms?

Ans
- ✗ 1. Phenol
- ✗ 2. Benzoic acid
- ✓ 3. Benzyl alcohol
- ✗ 4. Methyl paraben

Q.68 Which of the following routes is considered a non per oral extravascular route for drug absorption?

Ans
- ✗ 1. Gastric
- ✓ 2. Buccal
- ✗ 3. Oral
- ✗ 4. Intravenous

Q.69 In the context of dietary fibres and complex carbohydrates, which health claim is most strongly supported by scientific evidence?

Ans
- ✓ 1. Dietary fibre intake reduces the risk of coronary heart disease.
- ✗ 2. Complex carbohydrates lead to insulin resistance when consumed in high amounts.
- ✗ 3. Dietary fibre causes permanent weight loss without diet modification.
- ✗ 4. All dietary fibres are completely digested in the small intestine.

Q.70 In the context of pharmaceutical marketing, how does a consumer's self-concept most likely influence their buying behaviour?

Ans
- ✗ 1. It prevents information processing about products.
- ✗ 2. It always leads to impulse purchases.
- ✓ 3. It shapes preferences for products that align with their self-image.
- ✗ 4. It has no effect on product involvement.