

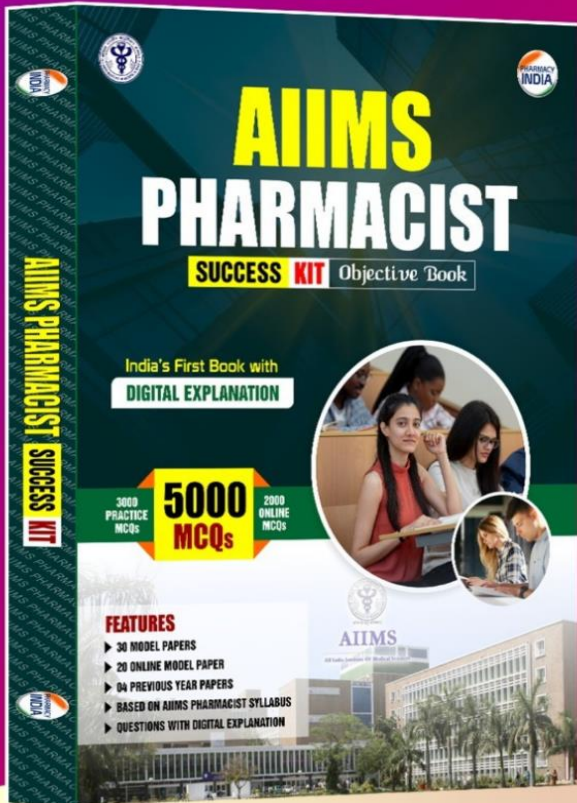


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1. Which _____ body?

- **Answer:** (b) Drug with very low aqueous solubility
- **Explanation:** Drugs with very low aqueous solubility tend to have high lipid solubility, enabling them to be redistributed between lipid-rich tissues (e.g., fat) and the bloodstream. Redistribution is common for lipid-soluble drugs like anesthetics.
- **Reference:** "Goodman & Gilman's: The Pharmacological Basis of Therapeutics" by Laurence L. Brunton, 12th Edition, page 96.

2. Choose _____ material:

- **Answer:** (a) Acetone
- **Explanation:** Acetone is commonly used as a solvent for enteric coating materials due to its ability to dissolve polymers like cellulose acetate phthalate, which are used for protecting drugs from stomach acid.
- **Reference:** "Pharmaceutics: The Science of Dosage Form Design" by Aulton and Taylor, 2nd Edition, page 404.

3. Duration _____ because:

- **Answer:** (d) All of the above
- **Explanation:** Neonates have immature liver and kidney functions, resulting in reduced drug metabolism and excretion. The underdeveloped tubular transport mechanism and reduced renal blood flow also contribute to prolonged drug action.
- **Reference:** "Essentials of Medical Pharmacology" by K.D. Tripathi, 8th Edition, page 93.

4. Tick _____ proteases:

- **Answer:** (c) Saquinavir
- **Explanation:** Saquinavir is a protease inhibitor used in antiretroviral therapy to inhibit the protease enzyme required for viral protein processing, particularly in HIV treatment.
- **Reference:** "Rang & Dale's Pharmacology" by Humphrey P. Rang et al., 9th Edition, page 689.

5. When _____ occurs is:

- **Answer:** (b) Action potential generation
- **Explanation:** When the threshold potential is reached, voltage-gated sodium channels open, leading to rapid depolarization and the generation of an action potential.

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- **Reference:** "Guyton and Hall Textbook of Medical Physiology" by John E. Hall, 13th Edition, page 82.

6. Eye _____ preparation:

- **Answer:** (c) Pyrogenicity
- **Explanation:** While both eye drops and parenteral preparations must be sterile and free from particulate matter, pyrogenicity is not a concern for eye drops since they are not administered systemically. Parenteral drugs, however, must be pyrogen-free.
- **Reference:** "Remington: The Science and Practice of Pharmacy," 22nd Edition, page 831.

7. Measles _____ birth:

- **Answer:** (c) 9
- **Explanation:** The measles vaccine is typically administered at 9 months of age as part of the routine immunization schedule to protect against measles, mumps, and rubella (MMR).
- **Reference:** "Park's Textbook of Preventive and Social Medicine," 25th Edition, page 165.

8. Function of _____ microvilli is:

- **Answer:** (b) Improve surface area
- **Explanation:** Microvilli increase the surface area of cells, enhancing absorption and secretion processes, particularly in the intestines and kidneys. They do not directly affect solubility or dissociation rates.
- **Reference:** "Guyton and Hall Textbook of Medical Physiology" by John E. Hall, 13th Edition, page 348.

9. Eudragit _____ purpose:

- **Answer:** (b) Sustained
- **Explanation:** Eudragit RS PO is a polymer used in sustained-release drug formulations due to its permeability and controlled drug release properties.
- **Reference:** "Pharmaceutics: The Science of Dosage Form Design" by Aulton and Taylor, 2nd Edition, page 418.

10. siRNA _____ means:

- **Answer:** (d) Small interfering RNA

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- **Explanation:** siRNA (small interfering RNA) are short, double-stranded RNA molecules that interfere with gene expression by degrading mRNA, preventing translation.
- **Reference:** "Molecular Biology of the Gene" by James D. Watson, 7th Edition, page 596.

11. Tuftsin _____ is:

- **Answer:** (c) Immunopotential tetrapeptide
- **Explanation:** Tuftsin is a naturally occurring tetrapeptide (Thr-Lys-Pro-Arg) that enhances phagocytosis and boosts the immune response, making it an immunopotential agent.
- **Reference:** "Immunology" by David Male, 9th Edition, page 217.

12. Myelin _____ found:

- **Answer:** (d) Around axons of neurons
- **Explanation:** Myelin sheaths are insulating layers surrounding the axons of neurons. They enhance the speed of nerve impulse conduction via saltatory conduction.
- **Reference:** "Guyton and Hall Textbook of Medical Physiology" by John E. Hall, 13th Edition, page 76.

13. Ornithine _____ because:

- **Answer:** (c) Due to lack of codon
- **Explanation:** Ornithine is an amino acid involved in the urea cycle but is not incorporated into proteins because there is no codon for ornithine in the genetic code.
- **Reference:** "Lehninger Principles of Biochemistry" by David L. Nelson and Michael M. Cox, 7th Edition, page 662.

14. Ringworm _____ by:

- **Answer:** (c) Fungus
- **Explanation:** Ringworm, or dermatophytosis, is caused by fungi belonging to the genera *Trichophyton*, *Microsporum*, and *Epidermophyton*. It affects the skin, hair, and nails.
- **Reference:** "Medical Microbiology" by Patrick R. Murray, 9th Edition, page 720.

15. Morphine _____ in:

- **Answer:** (a) 1804

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- **Explanation:** Morphine was first isolated from opium in 1804 by Friedrich Sertürner, marking the discovery of the first alkaloid and beginning the study of medicinal alkaloids.
- **Reference:** "The History of Morphine" in "Principles of Pharmacology," 2nd Edition, page 312.

16. Rapid _____ called:

- **Answer:** (b) PCR
- **Explanation:** Polymerase Chain Reaction (PCR) is a technique used to rapidly amplify a specific segment of DNA by repeated cycles of denaturation, annealing, and extension.
- **Reference:** "Molecular Biology of the Gene" by James D. Watson, 7th Edition, page 243.

17. Icterus _____ determine:

- **Answer:** (c) Serum bilirubin
- **Explanation:** The icterus index measures the yellowish discoloration of serum caused by elevated bilirubin levels, which is indicative of jaundice or liver dysfunction.
- **Reference:** "Clinical Chemistry: Principles, Techniques, and Correlations" by Michael Bishop, 7th Edition, page 290.

18. Partition _____ technique:

- **Answer:** (b) HPLC
- **Explanation:** High-Performance Liquid Chromatography (HPLC) is based on the partition principle, where the separation of compounds depends on their partitioning between the mobile phase and stationary phase.
- **Reference:** "Principles of Instrumental Analysis" by Douglas A. Skoog et al., 7th Edition, page 630.

19. The _____ is:

- **Answer:** (b) α -oxidation
- **Explanation:** The metabolic oxidation reaction that removes one carbon from a lipid is α -oxidation (α -ox). This process occurs in peroxisomes and is a minor pathway for fatty acid oxidation.
- **Reference:** "Lehninger Principles of Biochemistry" by David L. Nelson and Michael M. Cox, 7th Edition, page 676.

20. Prosthetic _____ to:

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- **Answer:** (b) Pyrrole ring
- **Explanation:** The prosthetic group of hemoglobin, heme, consists of an iron ion bound to a porphyrin structure made up of four pyrrole rings. This structure allows oxygen binding and transport.
- **Reference:** "Biochemistry" by Jeremy M. Berg, John L. Tymoczko, and Lubert Stryer, 7th Edition, page 232.

21. Aldolase _____ class:

- **Answer:** (b) Lyase
- **Explanation:** Aldolase is a lyase enzyme that catalyzes the reversible cleavage of fructose-1,6-bisphosphate into dihydroxyacetone phosphate and glyceraldehyde-3-phosphate during glycolysis.
- **Reference:** "Lehninger Principles of Biochemistry" by David L. Nelson and Michael M. Cox, 7th Edition, page 540.

22. One _____ alcohol:

- **Answer:** (d) Aloe
- **Explanation:** Aloe resin is soluble in alcohol, whereas acacia and gelatin are water-soluble, and asafoetida requires specialized solvents.
- **Reference:** "Pharmacognosy" by G.E. Trease and W.C. Evans, 16th Edition, page 234.

23. Heterocyclic _____ in:

- **Answer:** (d) Indomethacin
- **Explanation:** Indomethacin contains an indole ring in its structure, which contributes to its anti-inflammatory activity as a non-steroidal anti-inflammatory drug (NSAID).
- **Reference:** "Foye's Principles of Medicinal Chemistry" by Thomas L. Lemke et al., 7th Edition, page 659.

24. Mammalian _____ by:

- **Answer:** (d) All of these
- **Explanation:** Gene expression involves DNA synthesis (replication), RNA synthesis (transcription), and protein synthesis (translation), all essential for mammalian cell function.
- **Reference:** "Molecular Biology of the Gene" by James D. Watson, 7th Edition, page 89.

25. Choose _____ statement:

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- **Answer:** (c) Quinine and cinchonidine are levorotatory, Quindine and cinchonine are dextrorotatory
- **Explanation:**
 - **Levorotatory compounds:** These rotate the plane of polarized light to the left (counterclockwise) and are denoted with a (-) sign.
 - **Quinine** and **cinchonidine** belong to this category. Their molecular structures and spatial arrangement of functional groups result in leftward rotation.
 - **Dextrorotatory compounds:** These rotate the plane of polarized light to the right (clockwise) and are denoted with a (+) sign.
 - **Quinidine** and **cinchonine** belong to this category. Their different configurations compared to quinine and cinchonidine result in rightward rotation.
- **Reference:** "Pharmacognosy" by G.E. Trease and W.C. Evans, 16th Edition, page 320.

26. Codeine _____ by:

- **Answer:** (d) -OCH₃ group
- **Explanation:** Codeine differs from morphine by having a methoxy group (-OCH₃) at the 3-position instead of a hydroxyl group (-OH). This modification reduces its analgesic potency compared to morphine.
- **Reference:** "Foye's Principles of Medicinal Chemistry" by Thomas L. Lemke et al., 7th Edition, page 688.

27. Competitive _____ by:

- **Answer:** (a) Increasing substrate concentrations
- **Explanation:** In competitive inhibition, the inhibitor competes with the substrate for the active site of the enzyme. Increasing the substrate concentration outcompetes the inhibitor, restoring enzyme activity.
- **Reference:** "Lehninger Principles of Biochemistry" by David L. Nelson and Michael M. Cox, 7th Edition, page 194.

28. The _____ is:

- **Answer:** (a) Glycine
- **Explanation:** Glycine is optically inactive because it lacks a chiral center; its side chain is a single hydrogen atom, making it achiral.
- **Reference:** "Biochemistry" by Jeremy M. Berg, John L. Tymoczko, and Lubert Stryer, 7th Edition, page 118.

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29. According _____ schedule:

- **Answer:** (d) Y
- **Explanation:** Schedule Y of the Drugs and Cosmetics Act specifies the requirements and guidelines for conducting clinical trials in India, including ethical considerations and safety protocols.
- **Reference:** "The Drugs and Cosmetics Act, 1940," Government of India, Schedule Y.

30. Which _____ method?

- **Answer:** (d) N-acetyl salicylic acid
- **Explanation:** The assay of N-acetyl salicylic acid (aspirin) commonly involves back titration. Excess alkali is added to hydrolyze the aspirin, and the remaining alkali is titrated with acid to determine the amount of aspirin.
- **Reference:** "Practical Pharmaceutical Chemistry" by Beckett and Stenlake, 4th Edition, page 297.

31. Which _____ disease?

- **Answer:** (a) Psyllium seed husk
- **Explanation:** Psyllium seed husk is a source of soluble fiber that lowers LDL cholesterol and reduces the risk of coronary heart disease by improving lipid profiles and promoting heart health.
- **Reference:** "Nutrition and Cardiovascular Disease" by Watson et al., 2nd Edition, page 293.

32. Largest _____ is:

- **Answer:** (d) Jammu and Kashmir
- **Explanation:** Jammu and Kashmir is the largest producer of saffron in India, particularly in the Pampore region, known for its high-quality saffron cultivation.
- **Reference:** "Indian Agriculture" by R.N. Sharma, page 172.

33. Onset _____ is:

- **Answer:** (d) 6-8 hr
- **Explanation:**
Mucoadhesive System
 - The Striant mucoadhesive testosterone buccal system is designed to adhere to the gum or inner cheek to provide a controlled and sustained release of testosterone through the buccal mucosa.

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- Following initial application, the serum testosterone concentration rises to a maximum within 10 to 12 hours; steady-state levels are usually obtained after the first two
- Striant systems are used. When removed and not reapplied, the serum testosterone levels fall below the normal range within 2 to 4 hours.
- **Reference:** "Pharmaceutics: The Science of Dosage Form Design" by Aulton and Taylor, 2nd Edition, page 476.

34. Which _____ metabolism?

- **Answer:** (a) Propranolol
- **Explanation:** Propranolol undergoes extensive first-pass metabolism in the liver, leading to a significantly reduced bioavailability when administered orally.
- **Reference:** "Goodman & Gilman's: The Pharmacological Basis of Therapeutics" by Laurence L. Brunton, 12th Edition, page 150.

35. A _____ positions:

- **Answer:** (d) Catalepsy
- **Explanation:** Catalepsy is a condition marked by loss of consciousness and muscle rigidity, keeping the limbs in a fixed posture. It is commonly associated with certain neurological disorders and drug side effects.
- **Reference:** "Principles of Neurology" by Adams and Victor, 10th Edition, page 412.

36. α and β _____ as:

- **Answer:** (b) Anomer
- **Explanation:** α and β forms of cyclic glucose differ in the configuration of the -OH group on the anomeric carbon (C-1). Such stereoisomers are called anomers.
- **Reference:** "Lehninger Principles of Biochemistry" by David L. Nelson and Michael M. Cox, 7th Edition, page 299.

37. Which _____ nutraceutical?

- **Answer:** (b) Spirulina
- **Explanation:** Spirulina, a blue-green algae, is a rich source of proteins, vitamins, and antioxidants, making it a highly valuable nutraceutical for health and wellness.
- **Reference:** "Handbook of Nutraceuticals and Functional Foods" by Wildman and Kelley, 2nd Edition, page 254.

38. Chemically _____ asbestos is:

- **Answer:** (c) Alumino silicate

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- **Explanation:** Asbestos is a group of naturally occurring fibrous minerals composed of aluminosilicates. It is known for its heat resistance and insulation properties.
- **Reference:** "Environmental Chemistry" by Stanley E. Manahan, 10th Edition, page 235.

39. Which _____ Wool?

- **Answer:** (b) Zinc oxide
- **Explanation:** Zinc oxide, commonly known as Philosopher's Wool, was historically used in alchemy and is now used in cosmetics and ointments due to its skin-protective properties.
- **Reference:** "Inorganic Chemistry" by Catherine Housecroft and Alan G. Sharpe, 4th Edition, page 713.

40. The _____ as:

- **Answer:** (d) Ova
- **Explanation:** The female reproductive system produces ova (egg cells) in the ovaries, which are necessary for fertilization and reproduction.
- **Reference:** "Guyton and Hall Textbook of Medical Physiology" by John E. Hall, 13th Edition, page 1020.

41. Ghost _____ to:

- **Answer:** (a) Septum leaching effect
- **Explanation:** Ghost peaks in chromatography are unwanted peaks that do not correspond to any known sample compound. They can arise due to septum degradation or leaching of impurities into the mobile phase.
- **Reference:** "Chromatographic Techniques" by Satinder Ahuja, 3rd Edition, page 174.

42. When _____ as:

- **Answer:** (b) Tolerance
- **Explanation:** Tolerance occurs when a higher dose of a drug is required to achieve the same effect due to repeated use, often resulting from physiological adaptation or receptor downregulation.
- **Reference:** "Goodman & Gilman's: The Pharmacological Basis of Therapeutics" by Laurence L. Brunton, 12th Edition, page 561.

43. Cimetidine _____ system:

- **Answer:** (b) Inhibitor of p450

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- **Explanation:** Cimetidine inhibits cytochrome P450 enzymes, reducing the metabolism of drugs that are substrates for these enzymes, leading to potential drug-drug interactions.
- **Reference:** "Rang & Dale's Pharmacology" by Humphrey P. Rang et al., 9th Edition, page 431.

44. Cholinesterase _____ ACh by:

- **Answer:** (d) Hydrolysis reaction
- **Explanation:** Acetylcholine (ACh) is broken down into acetate and choline by the enzyme acetylcholinesterase via a hydrolysis reaction, terminating neurotransmission at cholinergic synapses.
- **Reference:** "Lehninger Principles of Biochemistry" by David L. Nelson and Michael M. Cox, 7th Edition, page 686.

45. Which _____ agonist?

- **Answer:** (a) Arecoline
- **Explanation:** Arecoline is a muscarinic receptor agonist derived from betel nuts, mimicking the action of acetylcholine. Tropicamide, atropine, and biperidine are antagonists at muscarinic receptors.
- **Reference:** "Pharmacology" by H.P. Rang et al., 9th Edition, page 145

46. Anaesthetic _____ receptor:

- **Answer:** (c) Thiopentone sodium
- **Explanation:** Thiopentone sodium, a barbiturate, acts as a GABAA receptor agonist by increasing the duration of chloride channel opening, resulting in enhanced inhibitory neurotransmission.
- **Reference:** "Goodman & Gilman's: The Pharmacological Basis of Therapeutics" by Laurence L. Brunton, 12th Edition, page 423.

47. Ropinirole _____ of:

- **Answer:** (d) Both (a) & (c)
- **Explanation:** Ropinirole is a selective D2/D3 receptor agonists primarily used to treat Parkinson's disease and restless leg syndrome. It does not directly act as a Ca²⁺ channel blocker or glutamate antagonist.
- **Reference:** "Rang & Dale's Pharmacology" by Humphrey P. Rang et al., 9th Edition, page 504.

48. Aripiprazole _____ class:

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- **Answer:** (a) Antipsychotic
- **Explanation:** Aripiprazole is an atypical antipsychotic that acts as a partial agonist at D2 dopamine receptors and a serotonin 5-HT_{1A} receptor agonist, commonly used in schizophrenia and bipolar disorder.
- **Reference:** "Psychopharmacology: Drugs, the Brain, and Behavior" by Jerrold S. Meyer and Linda F. Quenzer, 3rd Edition, page 296.

49. Antiepileptic _____ pregnancy:

- **Answer:** (a) Lamotrigine
- **Explanation:** Among the listed options, lamotrigine is preferred during pregnancy due to its lower teratogenic risk compared to phenytoin and valproic acid, which are associated with higher risks of congenital malformations.
- **Reference:** "Epilepsy and Pregnancy" by Catherine Helbig, in "Neurology in Clinical Practice," 7th Edition, page 912.

50. Hot _____ transition:

- **Answer:** (b) DSC
- **Explanation:** Differential Scanning Calorimetry (DSC) is often combined with hot stage microscopy (HSM) to analyze thermal transitions, such as melting and crystallization, in polymers.
- **Reference:** "Thermal Analysis of Polymers" by Joseph D. Menczel and R. Bruce Prime, 2nd Edition, page 230.

51. The _____ is:

- **Answer:** (a) 15%
- **Explanation:** Carr's index (also called compressibility index) indicates the flowability of a powder. A value below 15% signifies excellent flowability, while higher values indicate poor flow.
- **Reference:** "Pharmaceutics: The Science of Dosage Form Design" by Aulton and Taylor, 2nd Edition, page 206.

52. Aspartame _____ is chemically:

- **Answer:** (a) Ester of N-methyl aspartic acid + Phenyl acetate
- **Explanation:** Aspartame is a dipeptide-based artificial sweetener composed of aspartic acid (N-methyl derivative) and phenylalanine methyl ester, forming an ester linkage.
- **Reference:** "Handbook of Food Additives" by Thomas E. Furia, 2nd Edition, page 485.

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53. Ethanol _____ as:

- **Answer:** (c) Co-solvent
- **Explanation:** Ethanol acts as a co-solvent by increasing the solubility of poorly water-soluble drugs in aqueous solutions. Co-solvents modify the solvent polarity to enhance solubility.
- **Reference:** "Remington: The Science and Practice of Pharmacy," 22nd Edition, page 317.

54. Bancroft _____ of:

- **Answer:** (b) Emulsion
- **Explanation:** Bancroft's rule states that the phase in which the emulsifying agent is more soluble will form the continuous phase, affecting the stability of oil-in-water (O/W) or water-in-oil (W/O) emulsions.
- **Reference:** "Physical Pharmacy" by Alfred Martin, 4th Edition, page 463.

55. Which _____ suspensions:

- **Answer:** (a) Uniform and spherical particles with narrow size distribution
- **Explanation:** Uniform and spherical particles with a narrow size distribution minimize particle aggregation and caking, improving the stability of suspensions.
- **Reference:** "Pharmaceutical Dosage Forms: Disperse Systems" by Lieberman and Lachman, 2nd Edition, page 292.

56. Which _____ source?

- **Answer:** (b) Acacia
- **Explanation:** Acacia (gum arabic) is a natural emulsifying agent derived from plants. It is commonly used to stabilize oil-in-water emulsions.
- **Reference:** "Pharmaceutical Dosage Forms: Disperse Systems" by Lieberman and Lachman, 2nd Edition, page 225.

57. Which _____ emulsions?

- **Answer:** (d) Both (b) & (c)
- **Explanation:** Multiple emulsions (W/O/W or O/W/O) are difficult to formulate due to the complexity of the system and challenging to stabilize because of phase separation or coalescence.
- **Reference:** "Remington: The Science and Practice of Pharmacy," 22nd Edition, page 436.

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- **Answer:** (b) Orange peel effect
- **Explanation:** The orange peel effect occurs when the coating material is not evenly spread across the tablet surface, leading to a rough and uneven appearance resembling an orange peel.
- **Reference:** "Pharmaceutical Dosage Forms: Tablets" by Lieberman and Lachman, 2nd Edition, page 324.

59. The _____ as:

- **Answer:** (a) Disintegration
- **Explanation:** Disintegration refers to the process where a tablet breaks down into smaller fragments in an aqueous environment, facilitating drug release and subsequent dissolution.
- **Reference:** "Pharmaceutics: The Science of Dosage Form Design" by Aulton and Taylor, 2nd Edition, page 466.

60. The _____ capsules:

- **Answer:** (a) 0.4 to 0.8
- **Explanation:** The ratio of dry glycerin to dry gelatin for the manufacturing of capsules is typically between 0.4:1 to 0.8:1. This ratio is crucial for achieving the desired properties of the capsule shell, such as flexibility, elasticity, and stability.

| Hardness | Ratio = Dry glycerine: Dry gelatin | Usage |
|----------|------------------------------------|--|
| Hard | 0.4/1 | Oral, oil-based shell, softening product and those destined primarily for hot humid areas |
| Medium | 0.6/1 | Oral, oil-based shell, softening product and those destined primarily for hot humid areas |
| Soft | 0.8/1 | Tube, vaginal, water miscible based or shell hardening products and those destined primarily for cold, dry areas |

- **Reference:** "The Theory and Practice of Industrial Pharmacy" by Lachman, Lieberman, and Kanig, 3rd Edition, page 385.

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61. The _____ shell:

- **Answer:** (a) Glycerin
- **Explanation:** Glycerin is commonly used as a plasticizer in gelatin capsule formulations to improve elasticity, flexibility, and mechanical strength of the capsule shell.
- **Reference:** "The Theory and Practice of Industrial Pharmacy" by Lachman, Lieberman, and Kanig, 3rd Edition, page 382.

62. Acid _____ of:

- **Answer:** (b) Mycolic acid
- **Explanation:** The thick, waxy layer of mycolic acid in the cell walls of acid-fast bacteria (e.g., *Mycobacterium tuberculosis*) prevents crystal violet staining and makes them resistant to acid-alcohol decolorization during staining.
- **Reference:** "Medical Microbiology" by Patrick R. Murray, 9th Edition, page 231.

63. Bacteria _____ presence:

- **Answer:** (a) Microaerophilic
- **Explanation:** Microaerophilic bacteria require low oxygen concentrations (typically 2-10%) for growth but are inhibited by higher oxygen levels. Examples include *Helicobacter pylori*.
- **Reference:** "Brock Biology of Microorganisms" by Madigan et al., 14th Edition, page 178.

64. Vector _____ is:

- **Answer:** (a) Tsetse Fly
- **Explanation:** African sleeping sickness is caused by *Trypanosoma* species and transmitted by the tsetse fly (*Glossina* spp.), which serves as the vector for the parasite.
- **Reference:** "Parasitology: A Conceptual Approach" by Roberts and Janovy, 2nd Edition, page 236.

65. N-acetyl _____ of:

- **Answer:** (b) Cell wall
- **Explanation:** N-acetylglucosamine (NAG) and N-acetylmuramic acid (NAM) are components of the peptidoglycan layer in the bacterial cell wall, providing structural integrity and rigidity.
- **Reference:** "Prescott's Microbiology" by Willey et al., 10th Edition, page 53.

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66. Group _____ blood

- **Answer:** (b) Type B
- **Explanation:** Blood group A has A antigens on red blood cells and anti-B antibodies in plasma. When exposed to blood group B or AB (which has B antigens), agglutination occurs due to the reaction of anti-B antibodies with B antigens.
- **Reference:** "Textbook of Medical Physiology" by Guyton and Hall, 13th Edition, page 457.

67. pH of _____ (age 25-30) is:

- **Answer:** (d) pH 4.0-4.5
- **Explanation:** The vaginal pH in reproductive-age women is slightly acidic (4.0–4.5), which helps maintain healthy flora and prevent infections.
- **Reference:** "Obstetrics and Gynecology" by Beckmann et al., 8th Edition, page 62.

68. Osmotic _____ is:

- **Answer:** (d) 300 mosm/L
- **Explanation:** The osmotic pressure of human plasma is approximately 300 milliosmoles per liter (mosm/L), maintaining water balance between blood and tissues.
- **Reference:** "Textbook of Medical Physiology" by Guyton and Hall, 13th Edition, page 319.

69. Factor _____ disease:

- **Answer:** (a) Hemophilia A
- **Explanation:** Hemophilia A is caused by a deficiency or dysfunction of clotting factor VIII, leading to impaired blood clotting and excessive bleeding.
- **Reference:** "Hematology: Basic Principles and Practice" by Ronald Hoffman et al., 7th Edition, page 1124.

70. The _____ ventricle:

- **Answer:** (d) Tricuspid valve
- **Explanation:** The tricuspid valve is located between the right atrium (auricle) and the right ventricle, preventing backflow of blood into the atrium during ventricular contraction.
- **Reference:** "Human Anatomy & Physiology" by Elaine N. Marieb and Katja Hoehn, 11th Edition, page 710.

71. Drug _____ class:

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- **Answer:** (a) Artemisia
- **Explanation:** Artemisia is an herb (leaves) and does not belong to the fruit class. Fennel, coriander, and colocynth are derived from fruits.
- **Reference:** "Pharmacognosy" by G.E. Trease and W.C. Evans, 16th Edition, page 235.

72. Select _____ class:

- **Answer:** (c) Nux-vomica
- **Explanation:** Nux-vomica contains alkaloids (strychnine and brucine) and does not belong to the glycoside class. Digitalis, senna, and cascara are glycoside-containing drugs.
- **Reference:** "Pharmacognosy" by G.E. Trease and W.C. Evans, 16th Edition, page 330.

73. The _____ of:

- **Answer:** (b) Large DNA molecules
- **Explanation:** Shotgun sequencing is a method used to sequence large DNA molecules by randomly fragmenting the DNA, sequencing the fragments, and reassembling them computationally.
- **Reference:** "Genomics and Bioinformatics" by Devarajan Thangadurai et al., 1st Edition, page 87.

74. The _____ in:

- **Answer:** (d) Form 20 G
- **Explanation:** The license for wholesale of drugs specified in Schedule X is issued in Form 20-G. Form 20-G is a license to sell, stock, exhibit, or distribute drugs specified in Schedule X by wholesale.
- **Reference:** "The Drugs and Cosmetics Act, 1940," Government of India, Schedule X.

75. When _____ terminate:

- **Answer:** (b) Two
- **Explanation:** According to the Medical Termination of Pregnancy Act, termination of pregnancy between 12 to 20 weeks requires the opinion of two Registered Medical Practitioners (RMPs).
- **Reference:** "The Medical Termination of Pregnancy Act, 1971," Government of India.

76. In _____ slide?

- **Answer:** (b) Animations

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- **Explanation:** The "Animations" feature in PowerPoint allows users to add movement effects to text, images, and other objects on a slide, such as entrance, exit, or emphasis effects.
- **Reference:** Microsoft PowerPoint User Guide (support.microsoft.com).

77. The _____ called

- **Answer:** (d) Arithmetic Logic Unit (ALU)
- **Explanation:** The ALU is a component of the CPU responsible for performing arithmetic (e.g., addition, subtraction) and logical operations (e.g., AND, OR).
- **Reference:** "Computer Organization and Design" by David A. Patterson and John L. Hennessy, 5th Edition, page 93.

78. Which _____ file?

- **Answer:** (b) .zip
- **Explanation:** The .zip file extension represents compressed files created using the ZIP format, which reduces the file size for storage and transfer.
- **Reference:** "Data Compression: The Complete Reference" by David Salomon, 4th Edition, page 325.

79. In _____ to

- **Answer:** (c) The data transfer rate of a network connection
- **Explanation:** Bandwidth is the maximum rate at which data can be transferred over a network connection, typically measured in bits per second (bps).
- **Reference:** "Data Communications and Networking" by Behrouz A. Forouzan, 5th Edition, page 25.

80. Which _____ designs?

- **Answer:** (a) Adobe Photoshop
- **Explanation:** Adobe Photoshop is a widely used software for editing images, creating graphic designs, and performing advanced photo manipulations.
- **Reference:** Adobe Photoshop User Manual (adobe.com).

81. If " _____ coded?

- **Answer:** (a) RIAHC
- **Explanation:** The code reverses the letters of the word. Therefore, "CHAIR" becomes "RIAHC."

82. A _____ to Do?

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- **Answer:** (b) Granddaughter
- **Explanation:** Since D is the father of B, and C is the daughter of B, C is D's granddaughter.

83. What _____ 25, ?

- **Answer:** (c) 36
- **Explanation:** The sequence consists of consecutive square numbers: $1^2, 2^2, 3^2, 4^2, 5^2$, and next is $6^2 = 36$.

84. In _____ written?

- **Answer:** (c) UVQPN
- **Explanation:** Each letter in the word is replaced as follows:
 - $C \rightarrow E (+2)$, $L \rightarrow N (+2)$, $O \rightarrow Q (+2)$, $U \rightarrow W (+2)$, $D \rightarrow F (+2)$.Following this pattern:
 - $S \rightarrow U$, $T \rightarrow V$, $R \rightarrow P$, $M \rightarrow N$.Thus, "STORM" becomes "UVQPN."

85. Find _____ 11, ?

- **Answer:** (b) 13
- **Explanation:** The sequence consists of consecutive prime numbers: 2, 3, 5, 7, 11, and the next prime is 13.

86. The _____ years?

- **Answer:** (a) ₹4,410
- **Explanation:**
 - Principal (P) = ₹4,000
 - Rate of interest (r) = 5% per annum
 - Time (n) = 2 years
 - Compound Interest = ₹410
 - Calculate the Amount (A): Amount (A) = Principal (P) + Compound Interest
 - $A = ₹4,000 + ₹410$
 - $A = ₹4,410$

87. Two _____ the numbers:

- **Answer:** (a) 30, 42
- **Explanation:**

Let the numbers be $5x$ and $7x$.
Their LCM = Maximum of their multiples = $35x$

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- Since LCM = 210, $35x = 210$, $5x = 210$, $x = 6$.
Numbers are $5x = 30$ and $7x = 42$.

88. A _____ percentage?

- **Answer:** (b) 28%
- **Explanation:**
Overall discount = $10 + 20 - (10 \times 20) / 100 = 30 - 2 = 28\%$

89. A _____ cycle?

- **Answer:** (b) ₹1,800
- **Explanation:**
Selling Price (SP) = Cost Price (CP) - (Loss Percentage × CP)/100
 $SP = 2000 - (15 \times 2000)/100 = 2000 - 300 = ₹1,800$.

90. A _____ task?

- **Answer:** (c) 6.67 days
- **Explanation:**
Work rate of A = $\frac{1}{12}$ (fraction of work done per day by A).
Work rate of B = $\frac{1}{15}$ (fraction of work done per day by B).

$$\text{Combined work rate} = \frac{1}{12} + \frac{1}{15}$$
$$\frac{1}{12} + \frac{1}{15} = \frac{5}{60} + \frac{4}{60} = \frac{9}{60} = \frac{3}{20}$$

$$\text{Time taken to complete the task} = \frac{1}{\text{Combined Work Rate}} = \frac{1}{\frac{3}{20}} = \frac{20}{3} = 6.67 \text{ days.}$$

91. Who _____ Congress?

- **Answer:** (a) Badruddin Tyabji
- **Explanation:** Badruddin Tyabji was the first Muslim President of the Indian National Congress, presiding over its third session in 1887 held in Madras.
- **Reference:** "Modern Indian History" by Sumit Sarkar, page 224.

92. Which _____ Commission?

- **Answer:** (b) Article 280

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- **Explanation:** Article 280 of the Indian Constitution provides for the establishment of a Finance Commission to recommend the distribution of financial resources between the Union and the States.
- **Reference:** "Indian Polity" by M. Laxmikanth, 6th Edition, page 353.

93. Who _____ Committee?

- **Answer:** (b) Dr. B.R. Ambedkar
- **Explanation:** Dr. B.R. Ambedkar, known as the "Father of the Indian Constitution," was the Chairman of the Drafting Committee and played a key role in framing the Indian Constitution.
- **Reference:** "Indian Polity" by M. Laxmikanth, 6th Edition, page 27.

94. The _____ on:

- **Answer:** (b) Industrialization
- **Explanation:** The Second Five-Year Plan (1956–1961), also known as the Mahalanobis Plan, emphasized rapid industrialization with a focus on heavy industries and public sector development.
- **Reference:** "Indian Economy" by Ramesh Singh, 13th Edition, page 99.

95. The _____ king?

- **Answer:** (c) Chandragupta II
- **Explanation:** The Iron Pillar near Qutub Minar is attributed to the reign of Chandragupta II (Vikramaditya) of the Gupta dynasty, reflecting advanced metallurgical skills of that period.
- **Reference:** "A History of Ancient and Early Medieval India" by Upinder Singh, page 399.

96. The _____ Minister?

- **Answer:** (c) Lal Bahadur Shastri
- **Explanation:** The Green Revolution in India, marked by the introduction of high-yielding variety (HYV) seeds, modern irrigation, and chemical fertilizers, began during Lal Bahadur Shastri's tenure (1964–1966). He also popularized the slogan "Jai Jawan, Jai Kisan."
- **Reference:** "Indian Economy" by Ramesh Singh, 13th Edition, page 95.

97. Which _____ Sati?

- **Answer:** (c) Lord William Bentinck

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- **Explanation:** Lord William Bentinck, the Governor-General of India from 1828 to 1835, abolished the practice of Sati by enacting the Bengal Sati Regulation, 1829.
- **Reference:** "Modern Indian History" by Sumit Sarkar, page 156.

98. Which _____ Bihar'?

- **Answer:** (a) Kosi River
- **Explanation:** The Kosi River is known as the 'Sorrow of Bihar' because of its frequent and devastating floods, causing widespread destruction in the region.
- **Reference:** "Geography of India" by Majid Husain, 8th Edition, page 116.

99. Who _____ India?

- **Answer:** (b) C. Rajagopalachari
- **Explanation:** C. Rajagopalachari was the first and only Indian Governor-General of independent India, serving from 1948 to 1950, after Lord Mountbatten.
- **Reference:** "Indian Polity" by M. Laxmikanth, 6th Edition, page 350.

100. Which _____ Swaraj?

- **Answer:** (c) Mahatma Gandhi
- **Explanation:** Mahatma Gandhi wrote *Hind Swaraj* in 1909, articulating his vision of self-rule and non-violence as the foundation for India's independence.
- **Reference:** "The Story of My Experiments with Truth" by Mahatma Gandhi, page 210.