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MODEL PAPER-6

DIGITAL EXPLANATION

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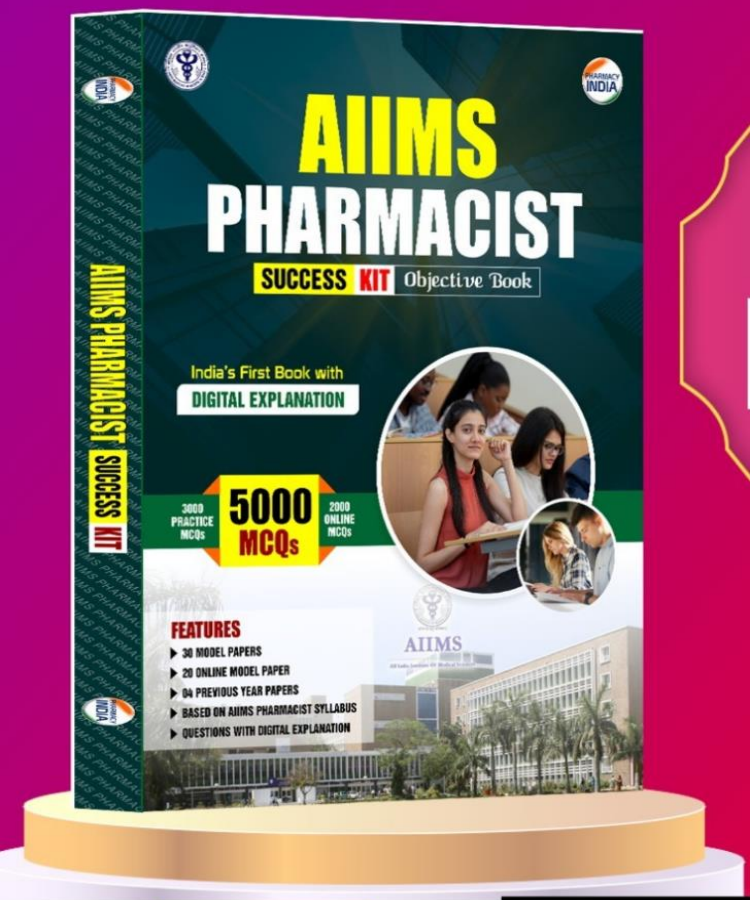

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Model Paper – 6 | Detailed Solutions

1. Calcium ---------- interfered by-
Correct Answer: (a) Fatty acid

Explanation:
Calcium absorption in the intestine is hindered by **fatty acids**, which can form insoluble **calcium soaps**. This process reduces the amount of calcium available for absorption. Conditions like **fat malabsorption** or a high intake of dietary fat can exacerbate this issue. Proper absorption requires adequate levels of **vitamin D**, which promotes the synthesis of **calbindin**, a calcium-binding protein in the intestines.

Reference: Guyton and Hall Textbook of Medical Physiology, John E. Hall, 14th Edition, Page 996.

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2. Hemoglobin ---------- needs both-
Correct Answer: (c) Iron and copper

Explanation:
Iron is a critical component of **heme**, the oxygen-binding portion of hemoglobin. **Copper** plays an indirect role by assisting in iron absorption and mobilization through its role in enzymes like **ferroxidase**. A deficiency in either can lead to **anemia**, characterized by reduced oxygen-carrying capacity of the blood.

Reference: Harrison's Principles of Internal Medicine, Dennis L. Kasper et al., 20th Edition, Page 592.

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3. Gastric ---------- the hormone-
Correct Answer: (b) Gastrin

Explanation:
Gastrin is a peptide hormone secreted by **G cells** in the stomach lining. It stimulates the **parietal cells** to produce **hydrochloric acid (HCl)**, which aids digestion and activates enzymes like **pepsinogen**. Gastrin secretion is triggered by food intake and is regulated through feedback mechanisms involving **somatostatin**.

Reference: Ganong's Review of Medical Physiology, Kim E. Barrett, 26th Edition, Page 521.

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4. An essential ---------- glycogen in liver is-
Correct Answer: (c) UTP

Explanation:
Uridine triphosphate (UTP) plays a crucial role in **glycogenesis**, where glucose is converted into glycogen for storage. UTP combines with glucose-1-phosphate to form **UDP-glucose**, which is then polymerized to glycogen by the enzyme **glycogen synthase**. This process is vital for maintaining blood glucose levels.

Reference: Biochemistry by Jeremy M. Berg, John L. Tymoczko, and Lubert Stryer, 8th Edition, Page 345.

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5. Which ---------- carbohydrate metabolism?
Correct Answer: (c) Vasopressin

Explanation:
Vasopressin, also known as **antidiuretic hormone (ADH)**, primarily regulates **water balance** in the body by increasing water reabsorption in the kidneys. It does not directly influence carbohydrate metabolism, unlike hormones like **insulin**, **glucagon**, and **epinephrine**, which regulate glucose levels.

Reference: Endocrinology: An Integrated Approach, Stephen Nussey and Saffron Whitehead, 1st Edition, Page 134.

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6. A pathway ---------- a co-factor is-
Correct Answer: (b) Ketone body formation

Explanation:
Ketone body formation occurs during states of **fasting** or **starvation**, where fatty acids are broken down to produce ketones. This process takes place in the liver, and **NADPH** is required as a reducing agent in certain steps of lipid metabolism and for the synthesis of fatty acids.

Reference: Lehninger Principles of Biochemistry, David L. Nelson and Michael M. Cox, 7th Edition, Page 862.

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7. The beta ---------- utilized as co-enzymes-
Correct Answer: (d) FAD & NAD^+

Explanation:
During **beta-oxidation**, fatty acids are broken down into **acetyl-CoA** units. The process involves the sequential removal of two-carbon fragments, with coenzymes **FAD (Flavin Adenine Dinucleotide)** and **NAD^+ (Nicotinamide Adenine Dinucleotide)** acting as electron acceptors, facilitating energy production in the **mitochondrial matrix**.

Reference: Biochemistry by Donald Voet and Judith G. Voet, 5th Edition, Page 750.

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8. Renin ---------- milk in infants in presence of-
Correct Answer: (d) Ca^{2+}

Explanation:
Renin, an enzyme found in the stomach of infants, acts on **casein**, the primary protein in milk, in the presence of **calcium ions (Ca^{2+})**. This action produces **paracasein**, forming curds that aid digestion by slowing gastric emptying, allowing better nutrient absorption.

Reference: Textbook of Gastroenterology, Tadataka Yamada, 5th Edition, Page 487.

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9. Enzyme ---------- amino acid of the form-
Correct Answer: (c) L

Explanation:

Enzyme-catalyzed hydrolysis of proteins typically produces amino acids in the **L-form**. In biological systems, most naturally occurring amino acids are in the **L-form**, which is the enantiomer commonly found in proteins.

- **D-form** amino acids are typically found in some bacterial cell walls and rarely in natural proteins.
- **DL** refers to a mixture of both D- and L-forms, but biological processes generally produce L-amino acids.
- **R** is not commonly used to describe amino acid chirality in this context.

Reference:

- Nelson, D. L., Cox, M. M. (2017). *Lehninger Principles of Biochemistry* (7th ed.).

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10. HDL ---------- secreted from-
Correct Answer: (b) Liver

Explanation:

High-Density Lipoproteins (HDL) are synthesized and secreted primarily by the **liver**. HDL plays a key role in transporting cholesterol from the peripheral tissues back to the liver, a process known as reverse cholesterol transport.

- The **pancreas** produces digestive enzymes but not HDL.
- The **kidney** and **muscle** are not involved in HDL synthesis.

Reference:

- Guyton, A. C., & Hall, J. E. (2020). *Textbook of Medical Physiology* (14th ed.).
- Nelson, D. L., Cox, M. M. (2017). *Lehninger Principles of Biochemistry* (7th ed.).

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11. Alkaloids ---------- the property of-
Correct Answer: (c) Weak base

Explanation:
Alkaloids are organic compounds containing **nitrogen**, and they act as **weak bases** due to the presence of an amino group. They form salts when reacting with acids, making them more soluble in water. Examples include **morphine**, **quinine**, and **atropine**, which exhibit various pharmacological properties.

Reference: Trease and Evans' Pharmacognosy, William Charles Evans, 16th Edition, Page 125.

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12. Gentian ---------- is used as-
Correct Answer: (c) Bitter tonic

Explanation:
Gentian is a bitter herb that stimulates the production of **digestive juices** and enhances

appetite. It is used as a **bitter tonic** in cases of **dyspepsia** and **loss of appetite**. Its active component, **gentiopicrin**, improves digestion by increasing gastric secretion.

Reference: Textbook of Pharmacognosy, C.K. Kokate et al., 48th Edition, Page 183.

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13. Proscillaridin ---------- A on acid hydrolysis yield-
Correct Answer: (a) Scillarin A + Rhamnose

Explanation:
Proscillaridin A, a cardiac glycoside derived from **Urginea maritima**, yields **Scillarin A** and **Rhamnose** upon acid hydrolysis. These glycosides are used in treating **heart failure** by increasing myocardial contractility.

Reference: Pharmacognosy, Tyler, Brady, and Robbers, 9th Edition, Page 250.

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14. The principle ---------- saffron is-
Correct Answer: (c) Crocetin

Explanation:
The red color of **saffron** is attributed to **Crocetin**, a carotenoid compound. It is a potent antioxidant and is responsible for saffron's therapeutic properties, including improving mood, enhancing memory, and reducing inflammation.

Reference: Indian Materia Medica, K.M. Nadkarni, 3rd Edition, Page 285.

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15. In ---------- ascospores are-
Correct Answer: (a) Sexual spores

Explanation:
Ascospores are the **sexual spores** of fungi belonging to the **Ascomycota** phylum. They are formed inside a specialized structure called the **ascus** during the sexual reproduction stage. These spores ensure genetic recombination and survival under adverse conditions.

Reference: Introduction to Mycology, Mehrotra and Aneja, 2nd Edition, Page 125.

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16. The ---------- rhubarb is-
Correct Answer: (c) Glucogallins

Explanation:
The astringent property of **rhubarb** is due to **Glucogallins**, which are hydrolysable tannins. They provide a **mild laxative effect** and are also used for their anti-inflammatory and antimicrobial properties in traditional medicine.

Reference: Trease and Evans' Pharmacognosy, William Charles Evans, 16th Edition, Page 277.

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17. All ---------- except-
Correct Answer: (a) Digitalis

Explanation:
O-glycosides are glycosides where the sugar molecule is attached through an oxygen atom. While **Digitalis** contains **C-glycosides**, others like **Senna**, **Aloes**, and **Squill** predominantly contain O-glycosides, known for their purgative or cardiotonic effects.

Reference: Textbook of Pharmacognosy, C.K. Kokate et al., 48th Edition, Page 195.

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18. Dioscorea ---------- producing plant-
Correct Answer: (b) Sapogenin producing plant

Explanation:
Dioscorea species are rich in **sapogenins**, which are steroidal precursors used in the synthesis of **corticosteroids** and **oral contraceptives**. **Diosgenin**, a prominent sapogenin, is extracted from species like **Dioscorea deltoidea** and **Dioscorea villosa**.

Reference: Pharmacognosy and Phytochemistry, Biren Shah and A.K. Seth, 1st Edition, Page 223.

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19. Liliaceae ---------- following except-
Correct Answer: (c) Ginger

Explanation:
The **Liliaceae family** includes plants like **Aloes**, **Onion**, and **Squill**, known for their medicinal

properties. **Ginger**, however, belongs to the **Zingiberaceae family**, which is characterized by aromatic rhizomes and is widely used for its antiemetic and anti-inflammatory properties.

Reference: Plant Systematics, Michael G. Simpson, 3rd Edition, Page 482.

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20. Ergotamine ---------- used for-
Correct Answer: (c) Migraine

Explanation:
Ergotamine, an alkaloid derived from **Claviceps purpurea**, is used to treat **migraine** by constricting dilated cranial blood vessels through its action on **serotonin receptors**. Its use is limited to acute migraine attacks due to potential side effects like nausea and vascular complications.

Reference: Goodman & Gilman's The Pharmacological Basis of Therapeutics, Laurence Brunton, 13th Edition, Page 825.

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21. List ---------- in schedule-
Correct Answer: (b) G

Explanation:
Schedule **G** drugs are required to be used only under **medical supervision** and must carry the label, "Caution: It is dangerous to take this preparation except under medical supervision." Examples include **phenobarbitone** and **spironolactone**. These drugs often have side effects or require dosage adjustments that need monitoring.

Reference: Drugs and Cosmetics Act & Rules, 23rd Edition, Page 145.

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22. Particulars ---------- of drugs is-
Correct Answer: (b) U

Explanation:
Schedule **U** specifies the requirements for **manufacturing records** of drugs. It includes details like batch number, expiry date, ingredients used, and testing records to ensure the quality and safety of drugs during manufacturing.

Reference: Drugs and Cosmetics Act & Rules, 23rd Edition, Page 170.

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23. List ---------- given in schedule-
Correct Answer: (a) W

Explanation:
Schedule **W** specifies drugs that must be marketed under their **generic names** only. These drugs are intended to promote cost-effective healthcare by encouraging the use of generics instead of expensive branded alternatives.

Reference: Drugs and Cosmetics Act & Rules, 23rd Edition, Page 176.

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24. If ---------- it is known as-
Correct Answer: (b) Adulterated drug

Explanation:
A drug is termed **adulterated** when it has been substituted wholly or partly by another substance, resulting in **inferior quality** or potential harm. Adulteration is a violation under the **Drugs and Cosmetics Act**, leading to legal penalties to ensure public safety.

Reference: Drugs and Cosmetics Act & Rules, 23rd Edition, Page 182.

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25. Biological ---------- conducted at-
Correct Answer: (d) Kasauli

Explanation:
Kasauli, located in Himachal Pradesh, is home to the **Central Research Institute (CRI)**, which conducts biological and microbiological tests for vaccines and other biological products. It plays a pivotal role in ensuring the **safety and efficacy** of immunological products.

Reference: Pharmaceutical Biotechnology by Crommelin et al., 5th Edition, Page 215.

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26. In ---------- women, ovulation occurs on the-
Correct Answer: (b) 14th day

Explanation:
In a normal **28-day menstrual cycle**, **ovulation** occurs on the **14th day**, triggered by a surge in **luteinizing hormone (LH)**. This is the most fertile period as the **ovum is released** from the ovary and is available for fertilization.

Reference: Guyton and Hall Textbook of Medical Physiology, John E. Hall, 14th Edition, Page 1025.

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27. Spermatozoa ---------- formed in-
Correct Answer: (d) Seminal vesicles

Explanation:
Spermatozoa are formed in the **seminiferous tubules** of the testis but are stored and gain motility in the **seminal vesicles** before ejaculation. Seminal vesicles also secrete fluids that nourish sperm, making them viable for fertilization.

Reference: Gray's Anatomy, Susan Standring, 41st Edition, Page 1287.

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28. __ Protects ---------- urethral openings?
Correct Answer: (b) Labia minora

Explanation:
The **labia minora** are part of the external genitalia in females, located inside the **labia majora**. They help protect the **vaginal** and **urethral openings** from infections and physical trauma, contributing to reproductive and urinary health.

Reference: Textbook of Obstetrics by D.C. Dutta, 8th Edition, Page 48.

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29. The ---------- women causes-
Correct Answer: (b) Ovulation

Explanation:
The **release of luteinizing hormone (LH)** from the anterior pituitary gland triggers **ovulation**, the release of a mature ovum from the ovary. This occurs midway through the menstrual cycle and is a critical step in reproduction.

Reference: Williams Textbook of Endocrinology, Shlomo Melmed et al., 14th Edition, Page 545.

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30. The ---------- stimulated by-
Correct Answer: (a) Oxytocin

Explanation:
Oxytocin, often called the "love hormone," stimulates **uterine contractions** during labor and promotes the **ejection of milk** during breastfeeding. It acts on the smooth muscle of the uterus and mammary glands, facilitating childbirth and lactation.

Reference: Ganong's Review of Medical Physiology, Kim E. Barrett, 26th Edition, Page 626.

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31. Which ---------- puberty?
Correct Answer: (a) GnRH

Explanation:
Gonadotropin-releasing hormone (GnRH), secreted by the hypothalamus, stimulates the release of **luteinizing hormone (LH)** and **follicle-stimulating hormone (FSH)** from the anterior pituitary gland. These hormones trigger the onset of **puberty**, initiating the development of secondary sexual characteristics and gametogenesis.

Reference: Williams Textbook of Endocrinology, Shlomo Melmed et al., 14th Edition, Page 649.

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32. Which ---------- the ovum?
Correct Answer: (b) Acrosome

Explanation:
The **acrosome**, a cap-like structure on the head of the sperm, contains **hydrolytic enzymes** that help the sperm penetrate the **zona pellucida** of the ovum during fertilization. This process, called the **acrosomal reaction**, is essential for sperm-egg fusion.

Reference: Guyton and Hall Textbook of Medical Physiology, John E. Hall, 14th Edition, Page 1027.

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33. Absence ---------- is-
Correct Answer: (b) Amenorrhea

Explanation:
Amenorrhea refers to the absence of menstrual periods in women of reproductive age. It can be caused by **hormonal imbalances**, **stress**, **malnutrition**, or underlying conditions such as **polycystic ovary syndrome (PCOS)** or **hypothalamic dysfunction**.

Reference: Textbook of Gynecology by D.C. Dutta, 8th Edition, Page 241.

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34. Examination ---------- done by-
Correct Answer: (a) Amniocentesis

Explanation:
Amniocentesis is a diagnostic procedure where a small amount of **amniotic fluid** is extracted using a needle to test for **genetic abnormalities**, **chromosomal disorders**, or infections in the fetus. It is commonly performed between the **15th and 20th weeks of pregnancy**.

Reference: Textbook of Obstetrics by D.C. Dutta, 8th Edition, Page 160.

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35. Formation ---------- ovum is-
Correct Answer: (b) Oogenesis

Explanation:
Oogenesis is the process of ovum formation in the ovaries. It begins during fetal life with the formation of **primary oocytes**, which remain arrested in prophase I until puberty. During each menstrual cycle, one oocyte resumes meiosis and matures into a **secondary oocyte** ready for fertilization.

Reference: Human Embryology by Inderbir Singh, 12th Edition, Page 43.

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36. Garbage ---------- is-
Correct Answer: (c) Kitchen

Explanation:
Garbage from **kitchens** typically includes **organic waste** such as food scraps, peels, and

biodegradable materials. Proper disposal and composting of kitchen waste reduce environmental pollution and convert organic matter into useful compost for agriculture.

Reference: Environmental Science by S.C. Santra, 2nd Edition, Page 341.

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37. Sewage ---------- of-
Correct Answer: (c) Industries and houses

Explanation:
Sewage is wastewater originating from **industries and households**. It contains organic and inorganic pollutants, pathogens, and chemicals. Proper treatment through **sewage treatment plants (STPs)** prevents contamination of water bodies and protects public health.

Reference: Environmental Engineering by S.K. Garg, 22nd Edition, Page 455.

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38. House ---------- diseases-
Correct Answer: (b) By participating in life cycle

Explanation:
House flies act as **mechanical carriers** of pathogens and participate in the **life cycles** of some parasites. They transmit diseases like **typhoid**, **dysentery**, and **cholera** by contaminating food and water through contact with their legs, mouthparts, or feces.

Reference: Medical Parasitology by C.K. Jayaram Paniker, 9th Edition, Page 52.

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39. Bacteria ---------- acid are-
Correct Answer: (b) Gram-negative

Explanation:
Gram-negative bacteria are **decolorized** during the Gram staining process because their **cell wall** lacks the thick peptidoglycan layer present in Gram-positive bacteria. Instead, they have an outer membrane that retains the counterstain (safranin) and appears pink under a microscope.

Reference: Medical Microbiology by Ananthanarayan and Paniker, 10th Edition, Page 79.

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40. Chicken ---------- caused by-
Correct Answer: (b) Varicella zoster

Explanation:
Chickenpox is caused by the **Varicella-zoster virus (VZV)**, a member of the herpesvirus family. It is highly contagious and characterized by an itchy rash, fever, and fatigue. Vaccination with the **Varicella vaccine** provides effective protection against the disease.

Reference: Textbook of Microbiology by R. Ananthanarayan and C.K. Jayaram Paniker, 10th Edition, Page 539.

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41. The ---------- the body to produce antibodies-
Correct Answer: (d) Antigens

Explanation:
Antigens are foreign substances, typically proteins or polysaccharides, that trigger an **immune response**, leading to the production of **antibodies** by B-cells. These antibodies bind specifically to antigens, neutralizing them or marking them for destruction by other immune cells.

Reference: Immunology by Janeway, Travers, Walport, and Shlomchik, 8th Edition, Page 42.

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42. The ---------- in emergencies is followed by-
Correct Answer: (c) Radiation

Explanation:
In emergencies, **radiation sterilization** is a rapid and effective method used for sterilizing medical devices, food, and pharmaceuticals. It utilizes ionizing radiation such as **gamma rays** or **electron beams**, which penetrate materials and destroy microorganisms without heat.

Reference: Principles of Sterilization by Russell, Hugo, and Ayliffe, 5th Edition, Page 182.

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43. In ---------- by autoclave the bacteria are destroyed by-
Correct Answer: (c) Coagulation of proteins

Explanation:

In the process of **sterilization by autoclave**, **bacteria are destroyed by the coagulation of proteins**. The autoclave uses **high-pressure steam** at temperatures typically around **121°C** for a specified duration. The heat causes the proteins in bacterial cells to **coagulate and denature**, effectively killing the bacteria and other microorganisms.

- **Haemolysis** refers to the destruction of red blood cells, not the mechanism for bacterial sterilization.
- **Reduction** involves the gain of electrons, which does not directly relate to bacterial destruction in autoclaving.
- **Denaturation of blood cells** is not relevant in this context as the primary target is the bacterial cells.

Reference:

- Aulton, M. E. (2017). *Pharmaceutics: The Design and Manufacture of Medicines*.
- Remington: *The Science and Practice of Pharmacy* (22nd ed.).

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44. Light ---------- preparation are-
Correct Answer: (a) Amber-colored container

Explanation:
Amber-colored containers protect light-sensitive drugs, such as **vitamins** and **antibiotics**, by filtering out ultraviolet (UV) and visible light that can degrade their chemical stability. These containers are a standard in pharmaceutical packaging for light-sensitive formulations.

Reference: Pharmaceutical Packaging Technology by D.A. Dean, 2nd Edition, Page 119.

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45. Keeping ---------- for 7 days is known as-
Correct Answer: (b) Maceration

Explanation:
Maceration is a process of extracting active compounds from plants by soaking them in a suitable solvent for a prolonged period (7 days), allowing the solvent to dissolve the desired phytochemicals. It is commonly used in herbal medicine preparation.

Reference: Trease and Evans' Pharmacognosy, William Charles Evans, 16th Edition, Page 118.

46. DPT ---------- is used for-
Correct Answer: (a) Active immunization

Explanation:
The **DPT vaccine** (Diphtheria, Pertussis, Tetanus) provides **active immunization** by stimulating the immune system to produce antibodies against these diseases. It contains inactivated toxins (toxoids) for **diphtheria** and **tetanus**, and killed whole-cell or acellular pertussis components.

Reference: Textbook of Immunization Practices, Sudha Rao, 1st Edition, Page 59.

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47. Lubricant ---------- in tablets for-
Correct Answer: (d) None of the above

Explanation:
Lubricants in tablets, such as **magnesium stearate**, reduce friction between tablet surfaces and the die walls during compression, preventing sticking and ensuring uniform tablet ejection. They do not aid disintegration, binding, or granule flow directly.

Reference: The Theory and Practice of Industrial Pharmacy by Leon Lachman, 4th Edition, Page 328.

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48. The ---------- coating of tablet is-
Correct Answer: (d) Cellulose acetate phthalate

Explanation:
Cellulose acetate phthalate (CAP) is used in **enteric coatings** to protect the tablet from disintegration in the acidic environment of the stomach, allowing release in the intestine. It is ideal for drugs that are unstable in gastric acid or irritate the stomach lining.

Reference: Remington: The Science and Practice of Pharmacy, Loyd V. Allen Jr., 22nd Edition, Page 1247.

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49. The ---------- coating of tablet is-
Correct Answer: (d) Polyvinyl pyrrolidone

Explanation:
Polyvinyl pyrrolidone (PVP) is a water-soluble polymer used in film coatings to enhance the appearance of tablets, improve mechanical strength, and protect the active ingredient from environmental factors like moisture and light.

Reference: Handbook of Pharmaceutical Excipients by Rowe, Sheskey, and Owen, 8th Edition, Page 605.

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50. The ---------- drugs is-
Correct Answer: (d) Solubility

Explanation:
The **solubility** of a drug is a key physical property influencing its absorption. Drugs with higher solubility dissolve faster in gastrointestinal fluids, allowing quicker absorption into the bloodstream, thereby increasing bioavailability.

Reference: Biopharmaceutics and Pharmacokinetics by D.M. Brahmankar, 2nd Edition, Page 112.

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51. Piroxicam ---------- used as-
Correct Answer: (d) All of these

Explanation:
Piroxicam is a non-steroidal anti-inflammatory drug (**NSAID**) used for its **analgesic** (pain relief), **anti-inflammatory**, and **antipyretic** (fever-reducing) properties. It works by inhibiting the **cyclooxygenase (COX)** enzyme, reducing prostaglandin synthesis, which is responsible for inflammation and pain.

Reference: Goodman & Gilman's The Pharmacological Basis of Therapeutics, Laurence Brunton, 13th Edition, Page 965.

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52. The ---------- is-
Correct Answer: (d) All of these

Explanation:
Potassium iodide (**KI**) is a versatile pharmaceutical agent:

- It is used as an **antithyroid** agent for managing **hyperthyroidism** by blocking thyroid hormone release.
- As an **anti-fungal**, it is effective in treating **sporotrichosis**, a fungal infection.
- It is also an **expectorant**, thinning mucus in respiratory conditions like chronic bronchitis.

Reference: Textbook of Pharmacology by Rang, Dale, and Ritter, 8th Edition, Page 522.

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53. Steroid ---------- is-
Correct Answer: (d) All of these

Explanation:
Steroids like **prednisolone**, **prednisone**, and **hydrocortisone** are synthetic glucocorticoids used for their **anti-inflammatory**, **immunosuppressive**, and anti-allergic properties. They are prescribed for conditions like **asthma**, **autoimmune diseases**, and **inflammatory disorders**.

Reference: Katzung & Trevor's Basic and Clinical Pharmacology, Bertram G. Katzung, 15th Edition, Page 633.

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54. Prazosin ---------- is-
Correct Answer: (a) Anti-hypertensive agent

Explanation:
Prazosin is an **alpha-1 adrenergic receptor blocker** used to treat **hypertension** by relaxing blood vessels, thereby reducing peripheral vascular resistance. It is also effective in managing **benign prostatic hyperplasia (BPH)** by improving urinary flow.

Reference: Goodman & Gilman's The Pharmacological Basis of Therapeutics, Laurence Brunton, 13th Edition, Page 741.

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55. Endopa ---------- names of-
Correct Answer: (b) Alpha methyl dopa

Explanation:
Alpha-methyl dopa (brand name: Endopa) is an **antihypertensive agent** that acts as a **central**

alpha-2 agonist. It is commonly used to treat **pregnancy-induced hypertension (PIH)** due to its safety profile.

Reference: Katzung & Trevor's Basic and Clinical Pharmacology, Bertram G. Katzung, 15th Edition, Page 584.

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56. Lasix ---------- names of-
Correct Answer: (a) Frusemide

Explanation:

Lasix is a trade name for **Frusemide** (also known as **furosemide**), which is a **loop diuretic** used to treat conditions like heart failure, edema, and hypertension. It works by increasing the excretion of sodium and water through the kidneys.

- **Ethacrynic acid** is another diuretic, but it is not marketed under the name Lasix.
- **Spironolactone** is a potassium-sparing diuretic, not related to Lasix.
- **Chlorothiazide** is a thiazide diuretic and not a loop diuretic like Lasix.

Reference:

- Katzung, B. G. (2021). *Basic and Clinical Pharmacology* (15th ed.).

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57. A ---------- general anesthetic-
Correct Answer: (c) Thiopentone

Explanation:
Thiopentone sodium is a **short-acting barbiturate** used as an **induction agent** for general anesthesia. It acts by enhancing the activity of **GABA**, the chief inhibitory neurotransmitter, leading to sedation and hypnosis.

Reference: Anesthesia: A Comprehensive Review, Brian Hall and Robert Chantigian, 6th Edition, Page 86.

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58. Propantheline ---------- classified as-
Correct Answer: (a) Antispasmodic

Explanation:
Propantheline bromide is an **anticholinergic agent** that reduces spasms in the gastrointestinal and urinary tracts by inhibiting muscarinic receptors. It is used for conditions like **irritable bowel syndrome (IBS)** and **overactive bladder**.

Reference: Pharmacology and Therapeutics by R.S. Satoskar, 25th Edition, Page 212.

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59. Inderal ---------- name for-
Correct Answer: (b) Propranolol

Explanation:
Inderal is the brand name for **propranolol**, a non-selective beta-blocker. It is used to treat **hypertension**, **angina**, **arrhythmias**, and anxiety. It works by blocking beta-adrenergic receptors, reducing heart rate and contractility.

Reference: Goodman & Gilman's The Pharmacological Basis of Therapeutics, Laurence Brunton, 13th Edition, Page 780.

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60. The ---------- ephedrine HCl is-
Correct Answer: (a) Actifed

Explanation:
Actifed is a combination product containing **ephedrine HCl**, which acts as a **decongestant** by stimulating alpha and beta-adrenergic receptors. It is used for relieving nasal congestion in conditions like **common cold** and **allergic rhinitis**.

Reference: Martindale: The Complete Drug Reference, Sean C. Sweetman, 39th Edition, Page 894.

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61. Topical ---------- vitiligo (leukoderma) is-
Correct Answer: (b) Psoralen

Explanation:
Psoralen, a photosensitizing agent, is used in the treatment of **vitiligo** through **PUVA therapy (Psoralen + UVA light)**. It enhances skin pigmentation by stimulating **melanocytes** to produce melanin under ultraviolet light exposure.

Reference: Clinical Dermatology by Thomas P. Habif, 6th Edition, Page 230.

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62. Natural ---------- is-
Correct Answer: (b) Heparin

Explanation:
Heparin, a naturally occurring anticoagulant, prevents blood clotting by activating **antithrombin III**, which inhibits thrombin and factor Xa. It is used to treat and prevent conditions like **deep vein thrombosis (DVT)** and **pulmonary embolism**.

Reference: Goodman & Gilman's The Pharmacological Basis of Therapeutics, Laurence Brunton, 13th Edition, Page 877.

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63. Quinoline ---------- malaria is-
Correct Answer: (b) Quinine

Explanation:
Quinine, a natural alkaloid extracted from the **Cinchona bark**, is used in the treatment of **malaria**, particularly for chloroquine-resistant **Plasmodium falciparum**. It works by interfering with the parasite's ability to metabolize hemoglobin.

Reference: Medical Parasitology by C.K. Jayaram Paniker, 9th Edition, Page 112.

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64. Streptokinase ---------- as-
Correct Answer: (a) Fibrinolytic enzyme

Explanation:
Streptokinase, a fibrinolytic enzyme, is used to dissolve blood clots in conditions like **myocardial infarction (heart attack)** and **pulmonary embolism**. It activates **plasminogen** to form plasmin, which degrades fibrin, the structural framework of clots.

Reference: Katzung & Trevor's Basic and Clinical Pharmacology, Bertram G. Katzung, 15th Edition, Page 633.

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65. Sulphonamides ---------- infections is-

Correct Answer: (c) Sulfacetamide

Explanation:

Sulfacetamide is a sulfonamide antibiotic commonly used in the treatment of eye infections, such as conjunctivitis. It is formulated in ophthalmic solutions for this purpose.

Reference:

- *Remington: The Science and Practice of Pharmacy* (22nd ed.).

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66. Licence for the ---------- in the form-

Correct Answer: (d) 21

Explanation:

The license for the retail sale of **Schedule C and C1 drugs** is issued in **Form 21** according to the **Drugs and Cosmetics Act, 1940**. These drugs include certain biological and special products that require specific controls for their sale and distribution.

Reference:

- *Drugs and Cosmetics Act, 1940*.

---

67. GLP and ---------- given in schedule-

Correct Answer: (a) L1

Explanation:

GLP (Good Laboratory Practices) and the requirements for premises and equipment are outlined in **Schedule L1** under the **Drugs and Cosmetics Act**.

Reference:

- *Drugs and Cosmetics Act, 1940*.

---

68. Phenobarbitone ---------- to-

Correct Answer: (a) Schedule X

Explanation:

Phenobarbitone sodium (also known as phenobarbital) is classified under **Schedule X**, which covers drugs that require special controls for sale and distribution due to their potential for abuse or harm.

Reference:

- *Drugs and Cosmetics Act, 1940*.

---

69. Drugs may ---------- sea through-

Correct Answer: (d) All of these

Explanation:

Drugs can be imported into India by sea through any of the following ports: **Chennai, Mumbai,** and **Kolkata**. These are all authorized seaports for drug importation.

Reference:

- *Drugs and Cosmetics Act, 1940*.

---

70. Educational ---------- approved by-
Correct Answer: (b) Pharmacy Council of India

Explanation:
The **Pharmacy Council of India (PCI)**, established under the **Pharmacy Act, 1948**, regulates pharmacy education in India. It sets the standards for D.Pharm, B.Pharm, and M.Pharm courses to ensure uniformity and quality across institutions.

Reference: Pharmacy Act, 1948, Section 12, Page 48.

---

71. How ---------- Consultative Committee?
Correct Answer: (b) 2

Explanation:
The Central Government nominates **two representatives** to the **Drug Consultative Committee (DCC)**. This committee serves as a coordinating body under the **Drugs and Cosmetics Act, 1940**, ensuring uniformity in the administration of the Act across India.

Reference: Drugs and Cosmetics Act, 23rd Edition, Page 158.

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72. The ---------- divided into-
Correct Answer: (b) 3 parts

Explanation:
Drug samples collected by a **Drug Inspector** from retail premises must be divided into **three parts** under the **Drugs and Cosmetics Rules, 1945**. One part is sent for testing, the second is retained by the inspector, and the third is given to the person from whom the sample is taken.

Reference: Drugs and Cosmetics Rules, 23rd Edition, Page 135.

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73. As ---------- the following rooms, except-
Correct Answer: (b) Blue room

Explanation:
According to **Good Manufacturing Practices (GMP)**, change rooms to aseptic areas in sterile product manufacturing facilities must be demarcated as **black**, **grey**, and **white rooms**, with no mention of a **blue room**. This ensures controlled cleanliness levels.

Reference: WHO GMP Guidelines, 2021 Edition, Page 18.

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74. The ---------- antidiuretic, is-
Correct Answer: (a) Spironolactone

Explanation:
Spironolactone is a **potassium-sparing diuretic** that acts as an **aldosterone antagonist**. It promotes sodium excretion and potassium retention, making it **natriuretic**, **chloruretic**, and **saluretic**, but it can also exhibit **antidiuretic properties** in some cases.

Reference: Goodman & Gilman's The Pharmacological Basis of Therapeutics, Laurence Brunton, 13th Edition, Page 892.

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75. Which ---------- histamines is-
Correct Answer: (c) Azelastine and Ketotifen

Explanation:
Both **azelastine** and **ketotifen** are **dual-acting antihistamines**, functioning as **H1 receptor antagonists** and **mast cell stabilizers**. They are used in treating allergic conditions like rhinitis and conjunctivitis.

Reference: Pharmacology and Therapeutics by R.S. Satoskar, 25th Edition, Page 614.

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76. The ---------- Spirit" is written by-
Correct Answer: (d) Dr. A.P.J. Abdul Kalam

Explanation:
The book **"Indomitable Spirit"** by **Dr. A.P.J. Abdul Kalam** reflects his vision, values, and experiences as a scientist and leader. It inspires readers with anecdotes of determination and leadership.

Reference: Indomitable Spirit, Dr. A.P.J. Abdul Kalam, 2006 Edition.

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77. A ---------- price of the article is-
Correct Answer: (a) 500

Explanation:
Let the cost price of the article be **Rs. 500**. If the article was bought at 20% less, its cost would be **Rs. 400**, and selling it for Rs. 510 yields a 40% profit. Both scenarios confirm the original cost price as Rs. 500.

Reference: Quantitative Aptitude by R.S. Aggarwal, 2022 Edition, Page 129.

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78. At ---------- three years?
Correct Answer: (b) 10%

Explanation:
Using the compound interest formula:
$A = P (1 + r/100)^t$
where P = 10,000, A = 13,310 and t = 3, solving for r gives **10% per annum**.

Reference: Quantitative Aptitude by R.S. Aggarwal, 2022 Edition, Page 189.

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79. What ---------- perfect square?
Correct Answer: (c) 464

Explanation:
The square root of **306452** is approximately **553.27**. The nearest perfect square is $553^2 = 306916$. Hence, adding **464** makes it a perfect square.

Reference: Mathematics for Competitive Exams, Dr. R.D. Sharma, 2021 Edition, Page 92.

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80. A ---------- Barometric reading indicates?
Correct Answer: (b) Storm

Explanation:
A **sudden fall in barometric pressure** indicates an approaching **storm** or **cyclone**. Low atmospheric pressure leads to unstable weather, often characterized by strong winds and heavy rain.

Reference: Textbook of Meteorology, R. Narasimha, 2nd Edition, Page 74.

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81. Which ---------- Educated Unemployed Youth?
Correct Answer: (a) Prime Ministers Rozgar Yojna

Explanation:
The **Prime Ministers Rozgar Yojna (PMRY)** was launched in 1993 to generate self-employment opportunities for **educated unemployed youth** by providing financial assistance for starting small businesses or industries.

Reference: India Yearbook, Government of India, 2023 Edition, Page 172.

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82. Alberuni ---------- came to India with-
Correct Answer: (d) Mahmud of Ghazni

Explanation:
Alberuni, a Persian scholar, accompanied **Mahmud of Ghazni** during his invasions of India in the 11th century. He studied Indian culture, science, and religion and documented his observations in the book **"Kitab al-Hind"**.

Reference: A History of India, Romila Thapar, 2022 Edition, Page 124.

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83. Which ---------- an Enzyme?
Correct Answer: (d) Trypsin

Explanation:
Trypsin is a digestive enzyme secreted by the **pancreas** as an inactive precursor called **trypsinogen**. It is activated in the small intestine and helps break down proteins into smaller peptides, aiding digestion.

Reference: Lehninger Principles of Biochemistry, David L. Nelson and Michael M. Cox, 7th Edition, Page 326.

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84. Where ---------- dam located?
Correct Answer: (b) Kerala

Explanation:
The **Mullaperiyar Dam**, built on the **Periyar River**, is located in **Kerala**, although it is operated by Tamil Nadu. It is a significant source of irrigation and drinking water for Tamil Nadu.

Reference: Geography of India, Majid Husain, 8th Edition, Page 212.

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85. The ---------- connect India to-
Correct Answer: (b) Nepal

Explanation:
The **Jogbani-Biratnagar and Jaynagar-Bijalpura-Bardibas railway lines** connect India with **Nepal**, promoting trade and transit between the two neighboring countries.

Reference: India-Nepal Relations, Ministry of External Affairs, 2022 Edition, Page 35.

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86. If ---------- BEYOND is coded as-
Correct Answer: (c) YEBDNO

Explanation:
In the coding pattern, letters are rearranged as per a specific sequence:
BEYOND → YEBDNO, shifting the first letter to the last and rearranging the rest alternately.

Reference: Verbal Reasoning by R.S. Aggarwal, 2022 Edition, Page 96.

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87. A ---------- number of other plants?
Correct Answer: (b) 4700

Explanation:
If 5% of the plants are roses and 1% are marigolds, the remaining 94% are other plants. Total plants = 5000.
5000 × 94 / 100 = 4700.

Reference: Quantitative Aptitude by R.S. Aggarwal, 2022 Edition, Page 112.

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88. Which ---------- a Physical change?
Correct Answer: (c) Dissolution of salt in water

Explanation:
Dissolution of salt in water is a **physical change** as it involves only the change in state (solid to aqueous solution) without altering the chemical composition of salt.

Reference: Textbook of Physical Chemistry, P.W. Atkins, 11th Edition, Page 74.

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89. Among ---------- builds a nest?
Correct Answer: (d) King Cobra

Explanation:
The **King Cobra** is the only snake that builds a nest using leaves and other debris to protect its eggs. It exhibits parental care, guarding the nest until the eggs hatch.

Reference: The Book of Indian Reptiles and Amphibians, J.C. Daniel, 2nd Edition, Page 62.

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90. Which ---------- does not contain oxygen?
Correct Answer: (c) Pyrites

Explanation:
Pyrites, commonly known as **fool's gold**, is a mineral composed of **iron sulfide (FeS_2)** and does not contain oxygen. Other options like silicates and carbonates contain oxygen atoms.

Reference: Introduction to Mineralogy, William D. Nesse, 3rd Edition, Page 235.

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91. The ---------- associated with which movement?
Correct Answer: (c) Civil Disobedience Movement

Explanation:
The **Dandi March**, led by **Mahatma Gandhi** in 1930, was a pivotal event of the **Civil Disobedience Movement**. It protested against the **British salt monopoly** by encouraging Indians to make their own salt, defying the Salt Laws imposed by the British.

Reference: India's Struggle for Independence, Bipan Chandra, 1989 Edition, Page 240.

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92. Which ---------- Plateau?
Correct Answer: (a) Brahmaputra

Explanation:

The **Brahmaputra** River does not originate from the Peninsular Plateau. It originates from the **Tibetan Plateau** (Tibet, China), and then flows into India, passing through the northeastern states.

- **Krishna, Godavari, and Mahanadi** all originate from the Peninsular Plateau in India.

Reference:

- *National Geography of India*
- *Rivers of India* by K. S. Valdiya.

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93. Which ---------- rural households?
Correct Answer: (c) Saubhagya Scheme

Explanation:
The **Saubhagya Scheme (Pradhan Mantri Sahaj Bijli Har Ghar Yojana)** aims to provide **electricity connections to rural households**. Launched in 2017, it focuses on improving rural electrification and ensuring universal electricity access.

Reference: Economic Survey of India, 2023 Edition, Page 152.

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94. Which ---------- point of India?
Correct Answer: (b) Indira Point

Explanation:
Indira Point, located in the **Nicobar Islands**, is the southernmost point of India. It lies at the tip of **Great Nicobar Island** in the Andaman and Nicobar archipelago.

Reference: Atlas of India, Survey of India, 2023 Edition, Page 54.

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95. Who ---------- Frontier Gandhi"?
Correct Answer: (a) Khan Abdul Ghaffar Khan

Explanation:
Khan Abdul Ghaffar Khan, also known as the **Frontier Gandhi**, was a prominent leader in India's independence movement. He founded the **Khudai Khidmatgar (Servants of God)** movement and worked for nonviolent resistance against British rule.

Reference: Freedom at Midnight, Dominique Lapierre and Larry Collins, 1975 Edition, Page 312.

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96. _____ ---------- logical operations.
Correct Answer: (b) CPU

Explanation:
The **Central Processing Unit (CPU)** is the **brain of a computer**, performing calculations and logical operations. It consists of the **Arithmetic Logic Unit (ALU)** and **Control Unit (CU)**, which handle data processing and control tasks.

Reference: Computer Organization and Architecture, William Stallings, 10th Edition, Page 148.

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97. Which ---------- input hardware?
Correct Answer: (c) Keyboard

Explanation:
The **keyboard** is an **input device** used to enter data into a computer. Other options like the monitor, printer, and speaker are output devices, facilitating information display or output.

Reference: Fundamentals of Computers, Rajaraman and Adabala, 6th Edition, Page 84.

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98. The ---------- operating system is to _____.
Correct Answer: (b) Manage hardware and software resources

Explanation:
The primary purpose of an **operating system (OS)** is to act as an interface between **hardware** and **software**. It manages system resources, such as memory, CPU, and storage, and facilitates user interaction with the computer.

Reference: Operating System Concepts, Abraham Silberschatz, 10th Edition, Page 54.

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99. What ---------- of 'LAN'?
Correct Answer: (a) Local Area Network

Explanation:
LAN (Local Area Network) refers to a network that connects computers and devices within a limited area, such as a building or campus. It facilitates sharing of resources like printers and data among connected devices.

Reference: Data Communications and Networking, Behrouz A. Forouzan, 5th Edition, Page 92.

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100. The ---------- in Windows OS is _____.

Correct Answer: (a) Ctrl + C

Explanation:

The shortcut **Ctrl + C** is used to **copy a file or text** in Windows OS. It is part of standard keyboard shortcuts, with **Ctrl + V** for paste and **Ctrl + X** for cut operations, enhancing user efficiency.

Reference: Windows 10: The Complete Manual, David Pogue, 2021 Edition, Page 212.
