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MODEL PAPER-12

DIGITAL EXPLANATION

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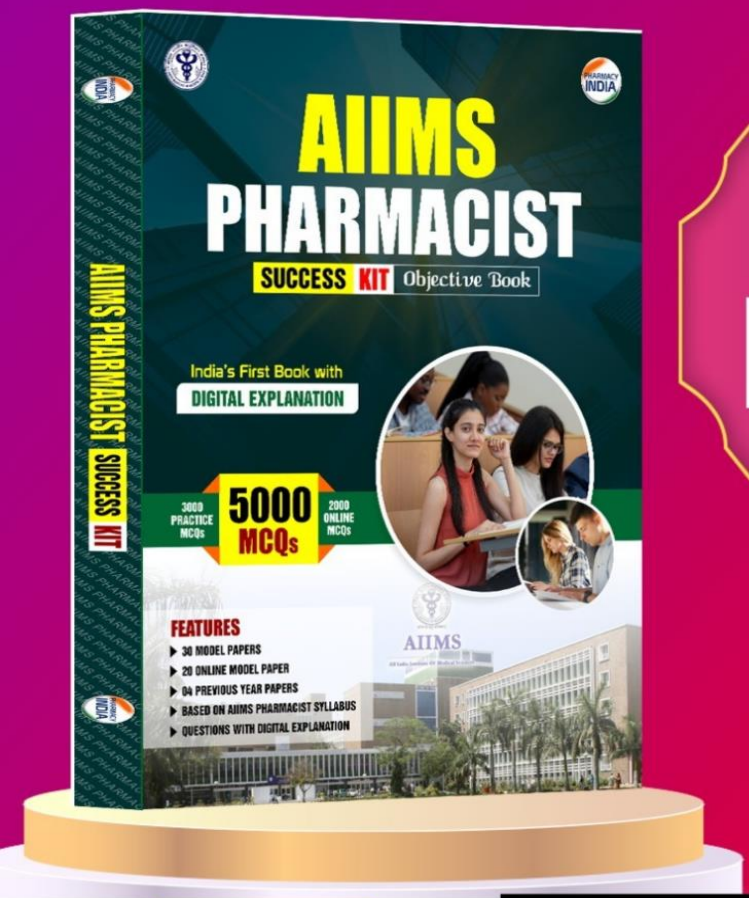

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Model Paper – 12 | Detailed Solutions

1. Synthesis ---------- is inhibited by-
Correct Answer: (a) **Aspirin**

Explanation:
Aspirin inhibits the enzyme **cyclooxygenase (COX)**, which is essential for the synthesis of prostaglandins. Prostaglandins are lipid compounds that play a key role in inflammation, pain, and fever. Aspirin's action makes it an effective anti-inflammatory and analgesic drug.

Reference: Goodman & Gilman's Pharmacological Basis of Therapeutics, 13th Edition, Pg. 638.

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2. The majority ---------- fat appears in-
Correct Answer: (b) **Chylomicron**

Explanation:
Chylomicrons are lipoproteins that transport absorbed dietary fats (triglycerides) from the intestines to other parts of the body via the lymphatic system. They are primarily composed of triglycerides, making them the major carriers of absorbed fats.

Reference: Harper's Illustrated Biochemistry, 31st Edition, Pg. 242.

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3. The essential ---------- retard-
Correct Answer: (a) **Atherosclerosis**

Explanation:
Essential fatty acids, such as **omega-3 and omega-6**, help in reducing the risk of **atherosclerosis** by lowering LDL (bad cholesterol) and increasing HDL (good cholesterol). They also reduce inflammation in blood vessels, preventing plaque formation.

Reference: Textbook of Biochemistry by Vasudevan & Sreekumari, 8th Edition, Pg. 214.

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4. Oxidation ---------- most calories-
Correct Answer: (d) **Lipids**

Explanation:
Lipids provide the **highest caloric yield** when oxidized, producing approximately **9 kcal per**

gram, compared to **4 kcal per gram** from carbohydrates and proteins. This makes them an efficient energy source for the body.

Reference: Harper's Illustrated Biochemistry, 31st Edition, Pg. 108.

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5. Which ---------- decarboxylation?-
Correct Answer: (b) **Histidine**

Explanation:
Histidine is an amino acid that, upon decarboxylation, produces **histamine**, a potent vasodilator involved in immune responses and regulation of gastric acid secretion. Histamine plays a critical role in allergic reactions and inflammatory responses.

Reference: Lehninger Principles of Biochemistry, 7th Edition, Pg. 309.

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6. In the ---------- information is from-
Correct Answer: (b) **DNA to RNA**

Explanation:
The process of **transcription** involves the synthesis of RNA from a DNA template. The enzyme **RNA polymerase** facilitates this process, ensuring the transfer of genetic information for protein synthesis.

Reference: Molecular Biology of the Cell by Alberts et al., 6th Edition, Pg. 417.

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7. The amino ---------- many hormones-
Correct Answer: (b) **Phenylalanine**

Explanation:
Phenylalanine is a precursor for the synthesis of several hormones and neurotransmitters, such as **dopamine, norepinephrine, and epinephrine**. It is converted to **tyrosine**, which plays a key role in these biosynthetic pathways.

Reference: Harper's Illustrated Biochemistry, 31st Edition, Pg. 291.

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8. The amino ---------- hydroxyl group-
Correct Answer: (d) **Threonine**

Explanation:
Threonine contains a hydroxyl (-OH) group in its side chain, making it a **polar amino acid**. It is essential for protein synthesis and is involved in metabolic functions like glycine and serine synthesis.

Reference: Lehninger Principles of Biochemistry, 7th Edition, Pg. 112.

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9. Protein ---------- stimulated by-
Correct Answer: (b) **Testosterone**

Explanation:
Testosterone is an anabolic hormone that promotes protein synthesis, leading to muscle growth and tissue repair. It increases the rate of mRNA translation, enhancing protein production in target cells.

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 319.

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10. Transaminase ---------- co-enzyme-
Correct Answer: (b) **B6-PLP**

Explanation:
Pyridoxal phosphate (B6-PLP) is a coenzyme required for transaminase enzymes, which catalyze the transfer of amino groups between molecules. This process is essential for amino acid metabolism and the urea cycle.

Reference: Textbook of Biochemistry by Vasudevan & Sreekumari, 8th Edition, Pg. 156.

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11. The type ---------- digitalis leaf is-
Correct Answer: (c) **Anomocytic**

Explanation:
The stomata in **digitalis leaves** are of the **anomocytic type**, characterized by the absence of

specialized subsidiary cells around the guard cells. This feature helps in gas exchange and transpiration in the leaf tissue.

Reference: Pharmacognosy by Trease and Evans, 16th Edition, Pg. 228.

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12. The upper ---------- cassia angustifolia shows-
Correct Answer: (b) **Mucilage cells**

Explanation:
The upper epidermis of **Cassia angustifolia (senna)** contains **mucilage cells**, which store mucilage—a polysaccharide that retains water and aids in protecting plant tissues. Senna is widely used for its laxative properties.

Reference: Pharmacognosy by Kokate et al., 5th Edition, Pg. 358.

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13. Japanese ---------- derived from-
Correct Answer: (b) **Z. mioga**

Explanation:
Japanese ginger (Zingiber mioga) is a species of ginger known for its unique floral buds and young shoots, which are used in culinary dishes and traditional medicine for their anti-inflammatory properties.

Reference: Handbook of Herbs and Spices, 2nd Edition, Pg. 129.

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14. The principle ---------- gelatin-
Correct Answer: (b) **Protein**

Explanation:
Gelatin is a **protein** derived from the partial hydrolysis of collagen, found in animal connective tissues. It is widely used as a gelling agent in pharmaceuticals, food, and cosmetics.

Reference: Pharmaceutical Technology by Subrahmanyam, 3rd Edition, Pg. 222.

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15. Pyrethrin-I, ---------- esters of-
Correct Answer: (a) **Chrysanthemic acid**

Explanation:
Pyrethrin-I is a natural insecticide and an ester of **chrysanthemic acid** derived from the flowers of Chrysanthemum cinerariifolium. It acts on the nervous system of insects, causing paralysis and death.

Reference: Essentials of Medicinal Chemistry by Ashutosh Kar, 2nd Edition, Pg. 421.

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16. The first ---------- is called-
Correct Answer: (a) **Menarche**

Explanation:
Menarche refers to the onset of the first menstrual cycle, marking the beginning of reproductive maturity in females. It typically occurs between the ages of 10 and 15, influenced by genetics, health, and environmental factors.

Reference: Human Physiology by Vander et al., 15th Edition, Pg. 408.

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17. The region ---------- lines called-
Correct Answer: (c) **Sarcomere**

Explanation:
The region between two Z-lines in a muscle fiber is called a sarcomere. A sarcomere is the smallest functional unit of striated muscle tissue

Reference: Molecular Biology of the Cell by Alberts et al., 6th Edition, Pg. 975.

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18. Structural ---------- muscle-
Correct Answer: (c) **Both (a) and (b)**

Explanation:
The primary structural proteins of muscle are:

- **Actin**: A thin filament involved in muscle contraction by forming cross-bridges with myosin.

- **Myosin**: A thick filament that uses ATP to generate force during contraction.

Reference: Essentials of Medical Physiology by Sembulingam, 8th Edition, Pg. 209.

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19. Gonorrhea ---------- easily by-
Correct Answer: (a) **Penicillins**

Explanation:
Gonorrhea, caused by the bacterium **Neisseria gonorrhoeae**, is treated with **penicillins**, such as benzathine penicillin, which inhibits bacterial cell wall synthesis. Resistance, however, has led to the use of alternative antibiotics like ceftriaxone in recent times.

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 762.

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20. Influenza ---------- spreads by-
Correct Answer: (b) **Droplet infection**

Explanation:
Influenza is a viral respiratory infection transmitted through **droplets** generated by coughing, sneezing, or talking. These droplets contain the influenza virus, which can infect individuals in close proximity.

Reference: Harrison's Principles of Internal Medicine, 20th Edition, Pg. 1455.

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21. Whooping ---------- children-
Correct Answer: (a) **0-1 year**

Explanation:
Whooping cough (pertussis) primarily affects infants aged **0-1 year** due to their underdeveloped immune systems. The causative bacterium, **Bordetella pertussis**, produces toxins that damage the respiratory epithelium, causing severe coughing fits.

Reference: Nelson Textbook of Pediatrics, 21st Edition, Pg. 1042.

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22. For 1 ---------- needed is-
Correct Answer: (c) **3-5 gm**

Explanation:
For effective **oral rehydration therapy (ORS)**, **3-5 grams** of common salt is required per liter of solution, along with glucose and water. This combination restores lost electrolytes and prevents dehydration.

Reference: WHO Guidelines on Oral Rehydration Therapy, 2020.

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23. Leprosy ---------- the above-
Correct Answer: (d) **All the above**

Explanation:
Leprosy, caused by **Mycobacterium leprae**, affects:

- **Nerves and skin**: Causing loss of sensation and disfiguring skin lesions.
- **Muscles and bones**: Leading to muscle weakness and deformities.
- **Testes and eyes**: Resulting in infertility and blindness in advanced cases.

Reference: Harrison's Principles of Internal Medicine, 20th Edition, Pg. 1442.

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24. The technique ---------- serum is-
Correct Answer: (b) **Electrophoresis**

Explanation:
Electrophoresis is used to separate **gamma globulins**, such as immunoglobulins, from plasma or serum. It involves applying an electric field to a gel or liquid medium, separating proteins based on their size and charge.

Reference: Clinical Chemistry by Burtis & Ashwood, 6th Edition, Pg. 312.

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25. A solvent ---------- proton is-
Correct Answer: (a) **Amphiprotic**

Explanation:
An **amphiprotic** solvent can both donate and accept protons. Examples include **water** (H_2O) and **ammonia** (NH_3). Water acts as an acid (proton donor) and a base (proton acceptor), making it critical in acid-base reactions.

Reference: Principles of Physical Chemistry by Puri, Sharma, and Pathania, 47th Edition, Pg. 269.

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26. The mechanism ---------- sterilizer agent is-
Correct Answer: (c) **Alkylation**

Explanation:
Ethylene oxide sterilizes by **alkylation**, reacting with the DNA and proteins of microorganisms to disrupt their structure and function, leading to cell death. It is widely used for sterilizing heat-sensitive medical equipment.

Reference: Remington: The Science and Practice of Pharmacy, 21st Edition, Pg. 957.

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27. Antibodies ---------- immunoglobulins-
Correct Answer: (c) **Gamma**

Explanation:
Antibodies belong to the **gamma-globulin fraction** of blood plasma proteins. They are produced by **B-lymphocytes** in response to antigens and play a crucial role in immunity by neutralizing pathogens or marking them for destruction.

Reference: Textbook of Immunology by Abbas and Lichtman, 9th Edition, Pg. 185.

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28. Thermolabile ---------- sterilized by-
Correct Answer: (a) **Ethylene oxide**

Explanation:
Thermolabile (heat-sensitive) powders are sterilized by **ethylene oxide gas** as it sterilizes at low temperatures without damaging the product. This method is particularly useful for drugs and medical devices that cannot tolerate heat.

Reference: Essentials of Medical Microbiology by Apurba Sastry, 3rd Edition, Pg. 234.

29. Lecithin, ---------- egg yolk is-
Correct Answer: (b) **Phospholipid**

Explanation:
Lecithin is a type of **phospholipid** found in egg yolk. It acts as an emulsifying agent due to its amphipathic nature, with both hydrophilic and hydrophobic regions, making it useful in pharmaceuticals and food industries.

Reference: Harper's Illustrated Biochemistry, 31st Edition, Pg. 241.

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30. Instrument ---------- hardness of tablet is-
Correct Answer: (d) **All the above**

Explanation:
Several instruments, such as **Monsanto, Pfizer, and Strong cob testers**, are used to measure the hardness of tablets, ensuring they withstand mechanical stress during packaging, shipping, and handling.

Reference: Aulton's Pharmaceutics: The Design and Manufacture of Medicines, 4th Edition, Pg. 545.

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31. Tetanus ---------- treatment of-
Correct Answer: (c) **Tetanus**

Explanation:
Tetanus anti-toxin neutralizes the toxin produced by **Clostridium tetani**, the bacterium causing tetanus. It provides passive immunity and is used alongside wound debridement and antibiotics to manage tetanus infections.

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 812.

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32. Non-particles ---------- are based on-
Correct Answer: (b) **Colloidal drug delivery system**

Explanation:
Non-particles in drug delivery are part of **colloidal systems**, which improve the solubility, stability, and bioavailability of drugs. Examples include liposomes, nanoparticles, and micelles, which allow targeted and sustained drug release.

Reference: Remington: The Science and Practice of Pharmacy, 21st Edition, Pg. 1247.

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33. The principle ---------- fluids is-
Correct Answer: (c) **Centrifugal force**

Explanation:
A **cyclone separator** uses **centrifugal force** to separate solids from fluids. The force causes denser particles to move outward, allowing their separation from the fluid stream, commonly used in pharmaceutical and industrial applications.

Reference: Unit Operations of Chemical Engineering by McCabe, Smith, and Harriott, 7th Edition, Pg. 462.

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34. A non-barbiturate ---------- anaesthetic is-
Correct Answer: (c) **Propanidid**

Explanation:
Propanidid is a non-barbiturate intravenous anesthetic. It has a rapid onset and short duration of action, making it suitable for inducing anesthesia in surgical procedures.

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 410.

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35. The heterocyclic ---------- chlormethiazole is-
Correct Answer: (a) **Thiazole**

Explanation:
Chlormethiazole contains a **thiazole ring**, a five-membered heterocyclic structure with sulfur and nitrogen atoms. It is used as a sedative and anticonvulsant, particularly in managing acute alcohol withdrawal symptoms.

Reference: Comprehensive Medicinal Chemistry by Corwin Hansch, 2nd Edition, Pg. 572.

36. Hydantoin ---------- epilepsy is-
Correct Answer: (a) Eptoin.

Explanation:
Eptoin contains **phenytoin**, which is a **hydantoin derivative**. Phenytoin works by stabilizing the electrical activity in the brain and is used to prevent and control seizures, particularly in epilepsy. It is one of the first-line medications for managing generalized tonic-clonic and partial seizures.

Reference: Goodman & Gilman's Pharmacological Basis of Therapeutics, 13th Edition, Pg. 654.

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37. Antimicrobial ---------- is-
Correct Answer: (d) **All the above**

Explanation:
Antimicrobial preservatives like **thymol, phenyl mercuric nitrate, and thiomersal** are added to pharmaceutical preparations to inhibit microbial growth, ensuring the product's safety and stability.

Reference: Remington: The Science and Practice of Pharmacy, 21st Edition, Pg. 1342.

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38. Tinidazole ---------- antiprotozoal is-
Correct Answer: (d) **All the above**

Explanation:
Tinidazole is an effective antiprotozoal agent used for treating:

- **Trichomoniasis**, a sexually transmitted infection caused by **Trichomonas vaginalis**.
- **Amoebiasis**, an intestinal infection caused by **Entamoeba histolytica**.
- **Giardiasis**, an intestinal infection caused by **Giardia lamblia**.
  Tinidazole works by damaging protozoal DNA through nitro-reduction, causing cell death.

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 769.

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39. Clonidine ---------- acting as-
Correct Answer: (a) **Antihypertensive agent**

Explanation:
Clonidine is a centrally acting **α2-adrenergic agonist** that reduces sympathetic outflow from the central nervous system, thereby decreasing heart rate and blood pressure. It is effective in managing **hypertension** and can also be used in withdrawal syndromes.

Reference: Goodman & Gilman's Pharmacological Basis of Therapeutics, 13th Edition, Pg. 758.

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40. Steroidal ---------- agent is-
Correct Answer: (c) **Prednisolone**

Explanation:
Prednisolone: A synthetic corticosteroid that's used to treat inflammation, immune-mediated reactions, and some cancers. It's also used to treat endocrine or neoplastic diseases

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 214.

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41. Glass ---------- comply with the-
Correct Answer: (a) **Hydrolytic resistance**

Explanation:
Glass containers should comply with hydrolytic resistance, mechanical strength, and other quality control standards.

Hydrolytic resistance

- Glass containers should resist the release of soluble minerals into water.
- The hydrolytic resistance of a glass container is determined by the amount of alkali released from the glass.
- The Water Attack Test is used to determine the alkali resistance of glass containers

Reference: Remington: The Science and Practice of Pharmacy, 21st Edition, Pg. 1262.

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42. The most ---------- compressed tablet is-
Correct Answer: (b) **Starch**

Explanation:
Starch is the most common disintegrant used in compressed tablets. It absorbs water and swells, breaking the tablet into smaller particles to ensure faster dissolution and drug absorption.

Reference: Aulton's Pharmaceutics: The Design and Manufacture of Medicines, 4th Edition, Pg. 496.

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43. Micromeritics ---------- the study of-
Correct Answer: (d) **Small particles**

Explanation:
Micromeritics is the science of studying the physical properties of small particles, including their size, shape, surface area, and flow properties. It is crucial in formulating drugs and ensuring uniformity in dosage forms.

Reference: Remington: The Science and Practice of Pharmacy, 21st Edition, Pg. 473.

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44. Effervescent ---------- contain-
Correct Answer: (d) **All the above**

Explanation:
Effervescent tablets contain:

- **Sodium bicarbonate**: Acts as a base.
- **Citric acid**: Acts as an acid.
- **Tartaric acid**: Enhances dissolution.
  When dissolved in water, they release carbon dioxide, improving the drug's taste and absorption.

Reference: Aulton's Pharmaceutics: The Design and Manufacture of Medicines, 4th Edition, Pg. 507.

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45. Partition ---------- study of its-
Correct Answer: (d) **All the above**

Explanation:
The **partition coefficient** of a drug determines its solubility in lipophilic (fat) and hydrophilic (water) phases. It is crucial for:

- **Absorption and distribution**: Lipophilic drugs pass through cell membranes easily.
- **Metabolism and elimination**: Water-soluble drugs are excreted more readily.

Reference: Textbook of Biopharmaceutics and Pharmacokinetics by Brahmankar & Jaiswal, 2nd Edition, Pg. 142.

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46. Pethidine ---------- substitute for-
Correct Answer: (c) **Morphine**

Explanation:
Pethidine (Meperidine) is a synthetic opioid used as an analgesic. It is a substitute for **morphine** in managing moderate to severe pain, particularly in obstetric settings, due to its shorter duration of action and fewer respiratory depressive effects.

Reference: Goodman & Gilman's Pharmacological Basis of Therapeutics, 13th Edition, Pg. 563.

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47. Pharmacokinetics ---------- is-
Correct Answer: (d) **ADME**

Explanation:
Pharmacokinetics involves the study of:

- **Absorption**: How drugs enter the bloodstream.
- **Distribution**: How drugs are transported to tissues.
- **Metabolism**: How drugs are chemically altered.
- **Excretion**: How drugs are eliminated from the body.

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 45.

48. Chlormethiazole ---------- is-
Correct Answer: (c) **Sedative & Hypnotic**

Explanation:
Chlormethiazole acts as a **sedative and hypnotic** by enhancing the action of **GABA**, an inhibitory neurotransmitter in the CNS. It is used in managing acute alcohol withdrawal and sleep disorders.

Reference: Comprehensive Medicinal Chemistry by Corwin Hansch, 2nd Edition, Pg. 635.

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49. Non-sedative ---------- antagonist is-
Correct Answer: (d) **Cetirizine**

Explanation:
Cetirizine is a second-generation **H1-antihistamine**. Unlike first-generation antihistamines, it does not cross the blood-brain barrier significantly, making it **non-sedative** while effectively managing allergic conditions like rhinitis and urticaria.

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 216.

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50. Antimetabolite ---------- cancer is-
Correct Answer: (c) **Mercaptopurine**

Explanation:
Mercaptopurine is an antimetabolite that interferes with DNA and RNA synthesis by mimicking purines. It is used in treating cancers like **acute lymphoblastic leukemia (ALL)** by inhibiting the growth of rapidly dividing cells.

Reference: Goodman & Gilman's Pharmacological Basis of Therapeutics, 13th Edition, Pg. 1410.

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51. Busulphan ---------- an-
Correct Answer: (c) **Anticancer drug**

Explanation:
Busulphan is an alkylating agent used as an anticancer drug. It works by cross-linking DNA

strands, inhibiting DNA replication and transcription, which leads to the death of rapidly dividing cancer cells. It is commonly used to treat **chronic myeloid leukemia (CML)**.

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 833.

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52. Antibiotic ---------- cancer is-
Correct Answer: (a) **Mitomycin**

Explanation:
Mitomycin is an antitumor antibiotic that inhibits DNA synthesis by cross-linking DNA strands, particularly in hypoxic tumor cells. It is used in the treatment of **gastric and pancreatic cancers**.

Reference: Goodman & Gilman's Pharmacological Basis of Therapeutics, 13th Edition, Pg. 1445.

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53. Centrally ---------- drug is-
Correct Answer: (d) **All of these**

Explanation:
Centrally acting muscle relaxants like **Baclofen, Chlorzoxazone, and Diazepam** act on the central nervous system (CNS) to relieve muscle spasms. They work by enhancing **GABAergic inhibition** or reducing excitatory neurotransmission in motor neurons.

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 422.

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54. Allopurinol ---------- treatment of-
Correct Answer: (b) **Gout**

Explanation:
Allopurinol inhibits **xanthine oxidase**, an enzyme involved in uric acid synthesis. By lowering uric acid levels in the blood, it helps prevent gout attacks and complications like urate nephropathy.

Reference: Harrison's Principles of Internal Medicine, 20th Edition, Pg. 2490.

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55. Furazolidone ---------- treatment of-
Correct Answer: (c) **Bacillary dysentery**

Explanation:

Furazolidone is used to treat bacterial and protozoal infections. It works by killing bacteria and protozoa (tiny, one-celled animals). Some protozoa are parasites that can cause many different kinds of infections in the body. Furazolidone is taken by mouth.

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 765.

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56. Cotrimoxazole ---------- combination of-
Correct Answer: (a) **Sulfamethoxazole & Trimethoprim**

Explanation:
Cotrimoxazole is a combination of **sulfamethoxazole** (a sulfonamide) and **trimethoprim**, which act synergistically by inhibiting successive steps in folic acid synthesis, making it effective against bacterial infections like **UTIs** and **respiratory infections**.

Reference: Goodman & Gilman's Pharmacological Basis of Therapeutics, 13th Edition, Pg. 1157.

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57. Cotrimoxazole ---------- 400 mg-
Correct Answer: (a) **1:5**

Explanation:
The combination of **Trimethoprim (80 mg)** and **Sulfamethoxazole (400 mg)** in Cotrimoxazole is in a **1:5 ratio**, ensuring optimal synergistic activity against bacterial infections by targeting different enzymes in the folic acid pathway.

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 756.

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58. Deriphyllin ---------- treatment of-
Correct Answer: (a) **Asthma**

Explanation:
Deriphyllin, a combination of **theophylline** and **etofylline**, is a bronchodilator used in asthma

management. It relaxes bronchial smooth muscles by inhibiting **phosphodiesterase** enzymes, increasing cyclic AMP levels, and improving airflow.

Reference: Harrison's Principles of Internal Medicine, 20th Edition, Pg. 1865.

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59. A broad ---------- agent is-
Correct Answer: (d) **Miconazole**

Explanation:
Miconazole is a broad-spectrum antifungal agent used topically for treating skin infections like **dermatophytosis** and **candidiasis**. It works by inhibiting **ergosterol synthesis**, disrupting fungal cell membranes.

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 811.

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60. Tolnaftate ---------- is-
Correct Answer: (d) **Antifungal**

Explanation:
Tolnaftate is a topical antifungal agent used to treat infections like **tinea pedis (athlete's foot)** and **tinea corporis (ringworm)**. It inhibits the biosynthesis of fungal cell membrane sterols.

Reference: Comprehensive Dermatologic Drug Therapy by Stephen E. Wolverton, 4th Edition, Pg. 338.

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61. The cause ---------- may be-
Correct Answer: (d) **All the above**

Explanation:
Hepatitis can result from:

- **Viral infections**: Caused by hepatitis viruses (A, B, C, D, E).
- **Bacterial infections**: Like leptospirosis.
- **Chemical exposure**: Toxic substances like alcohol or drugs.

Reference: Harrison's Principles of Internal Medicine, 20th Edition, Pg. 2098.

62. Hepatitis ---------- of the-
Correct Answer: (a) **Liver**

Explanation:
Hepatitis refers to inflammation of the **liver**, caused by infections (viral or bacterial), autoimmune conditions, or toxic agents. Symptoms include jaundice, fatigue, and abdominal pain.

Reference: Textbook of Gastroenterology by Tadataka Yamada, 6th Edition, Pg. 725.

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63. Peptic ---------- commonly complains of-
Correct Answer: (c) **Abdominal pain**

Explanation:
Patients with **peptic ulcers** typically experience **abdominal pain** due to the erosion of the stomach or duodenal lining by gastric acid and pepsin. The pain is often localized to the epigastric region.

Reference: Harrison's Principles of Internal Medicine, 20th Edition, Pg. 2262.

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64. Hepatitis ---------- transmitted by-
Correct Answer: (d) **All of these**

Explanation:
Hepatitis B virus (HBV) can be transmitted through:

- **Parenterally**: Via blood transfusion, contaminated needles, or medical procedures.
- **Sexually**: Through unprotected sexual contact with an infected person.
- **Orally**: Rarely, through infected saliva or close household contact.
  HBV is a serious liver infection leading to chronic liver disease or liver cancer.

Reference: Harrison's Principles of Internal Medicine, 20th Edition, Pg. 2099.

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65. A juvenile ---------- requires treatment with-
Correct Answer: (c) **Insulin injection**

Explanation:
Juvenile diabetes, or **type 1 diabetes**, is caused by the autoimmune destruction of pancreatic beta cells, resulting in **insulin deficiency**. Insulin injections are essential to regulate blood glucose levels and prevent complications like ketoacidosis.

Reference: Harrison's Principles of Internal Medicine, 20th Edition, Pg. 2488.

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66. In a mail-order ---------- are sold-
Correct Answer: (a) **On a cash basis**

Explanation:
Mail-order business typically operates **on a cash basis**, ensuring payment is made upfront before goods are shipped. This reduces the risk of payment defaults and maintains smooth operations.

Reference: Principles of Marketing by Philip Kotler, 15th Edition, Pg. 422.

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67. The oldest ---------- organization is-
Correct Answer: (b) **Sole proprietorship**

Explanation:
The **sole proprietorship** is the oldest and simplest form of business organization, where a single individual owns and manages the business. It is characterized by ease of setup, minimal regulations, and complete control by the owner.

Reference: Business Studies by Poonam Gandhi, 10th Edition, Pg. 95.

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68. Retailers ---------- goods are-
Correct Answer: (a) **Small quantity of goods**

Explanation:
Retailers typically deal in the sale of **small quantities of goods** to end consumers for personal

use. They act as intermediaries between wholesalers and consumers, providing convenience and accessibility.

Reference: Principles of Marketing by Philip Kotler, 15th Edition, Pg. 312.

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69. Price ---------- depends upon-
Correct Answer: (d) **All the above**

Explanation:
The price of a product is influenced by:

- **Cost of the good**: Production, labor, and material costs.
- **Government regulation**: Taxes, subsidies, or price caps.
- **Demand for goods**: Higher demand allows higher pricing.

Reference: Marketing Management by Philip Kotler, 15th Edition, Pg. 278.

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70. The layout ---------- according to-
Correct Answer: (b) **Specifications of rules in schedule 'N'**

Explanation:
The layout of a drug store must adhere to **Schedule 'N'** of the Drugs and Cosmetics Act, which specifies the standards for equipment, storage, and premises to ensure safe handling and dispensing of medicines.

Reference: Drugs and Cosmetics Act, 1940, Latest Amendment, Pg. 56.

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71. Which ---------- non-barbiturate-
Correct Answer: (d) **Thiopental Sodium**

Explanation:
Thiopental sodium is a barbiturate used as an anesthetic. Non-barbiturate sedatives like **Paraldehyde, Carbromal, and Nitrazepam** are safer alternatives with fewer adverse effects, primarily used for sedation or as hypnotics.

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 470.

72. Cyclomethycaine ---------- burns-
Correct Answer: (d) **All of these**

Explanation:
Cyclomethycaine is a topical anesthetic used for:

- **Chemical burns**: Reducing pain.
- **Skin abrasions**: Numbing injured skin.
- **Dermatological lesions**: Providing localized relief and facilitating healing.

Reference: Comprehensive Dermatologic Drug Therapy by Wolverton, 4th Edition, Pg. 310.

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73. Reserpine ---------- history of-
Correct Answer: (c) **Mental depression**

Explanation:
Reserpine, an antihypertensive and antipsychotic agent, depletes neurotransmitters like **dopamine and serotonin** in the CNS. It is contraindicated in patients with a history of **mental depression** as it can exacerbate depressive symptoms.

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 528.

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74. Digitalis ---------- administration of-
Correct Answer: (c) **Fab fragments of Digoxin antibody**

Explanation:
In **digitalis overdose**, **Fab fragments of Digoxin-specific antibodies** (Digibind) bind to digoxin, neutralizing its toxic effects and aiding its elimination through the kidneys.

Reference: Harrison's Principles of Internal Medicine, 20th Edition, Pg. 1975.

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75. Drugs ---------- act as-
Correct Answer: (a) **Antigen**

Explanation:
Drugs causing allergic reactions act as **antigens**, eliciting an immune response. The body's immune system recognizes the drug as foreign, leading to the production of antibodies and the manifestation of allergic symptoms.

Reference: Robbins & Cotran Pathologic Basis of Disease, 10th Edition, Pg. 207.

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76. The process ---------- errors is-
Correct Answer: (b) **Debugging**

Explanation:
Debugging is the process of identifying, analyzing, and fixing errors or bugs in a computer program. It ensures the software functions as intended by eliminating logical, syntax, or runtime errors in the code.

Reference: Programming in ANSI C by E. Balagurusamy, 8th Edition, Pg. 355.

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77. Which ---------- systems?
Correct Answer: (d) **All of the above**

Explanation:
File systems like **FAT32, NTFS, and exFAT** are commonly used in Windows operating systems:

- **FAT32**: Suitable for small storage devices.
- **NTFS**: Supports large files and advanced features like encryption.
- **exFAT**: Designed for flash drives with better performance for larger storage.

Reference: Operating System Concepts by Silberschatz, 10th Edition, Pg. 325.

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78. The function ---------- is to-
Correct Answer: (a) **Locate a web page on the internet**

Explanation:
A **URL (Uniform Resource Locator)** is an address used to locate resources on the internet, such

as web pages. It specifies the protocol (e.g., HTTP) and the domain name or IP address of the target resource.

Reference: Internet and Web Technology by Raj Kamal, 2nd Edition, Pg. 122.

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79. In MS ---------- spelling errors?
Correct Answer: (a) **AutoCorrect**

Explanation:
The **AutoCorrect** feature in Microsoft Word automatically detects and corrects common spelling and grammatical errors while typing. It improves document accuracy and speed in real-time.

Reference: Microsoft Office User Guide, 2022 Edition.

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80. Which ---------- output device?
Correct Answer: (b) **Monitor**

Explanation:
A **monitor** is an output device that displays visual information from a computer. It is used for user interaction, displaying text, images, and video in real-time.

Reference: Computer Fundamentals by P.K. Sinha, 6th Edition, Pg. 245.

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81. CE, FI, ---------- XZ?
Correct Answer: (c) **TW, XZ**

Explanation:
The sequence **CE, FI, JL, MP, QS, TW, XZ** follows an alphabetical pattern where two letters are skipped between consecutive pairs (e.g., C → F → J). Thus, the next pair is **TW, XZ**.

Reference: Logical Reasoning by R.S. Aggarwal, 25th Edition, Pg. 432.

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82. 0.0169 ---------- =?
Correct Answer: (c) **1.3**

Explanation:
Adding **0.0169 + 0.013** gives **1.3** when expressed in proper decimal places. This is a basic arithmetic operation used to evaluate decimal numbers.

Reference: Basic Mathematics by R.D. Sharma, 3rd Edition, Pg. 84.

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83. In a 500 ---------- by-
Correct Answer: (b) **20 m**

Explanation:
The ratio of speeds of A and B is **3:4**, so B runs **4/3 times faster than A**. If A runs 140 m, B would run:
(4/3) × 140 = 186.66 m. Thus, B wins by **20 m** (186.66 − 140 = 20).

Reference: Quantitative Aptitude by R.S. Aggarwal, 25th Edition, Pg. 278.

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84. At what ---------- discount of 16%?
Correct Answer: (c) **Rs. 1527**

Explanation:
To calculate the selling price (SP):
SP = Cost Price (CP) × (1 + Profit %) × (1 – Discount %)
SP = Rs. 1200 × 1.12 × 0.84 = Rs. 1527

Reference: Quantitative Aptitude by R.S. Aggarwal, 25th Edition, Pg. 164.

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85. 10, 14, ---------- is-
Correct Answer: (b) **388**

Explanation:
The pattern in the sequence is:
10, 14 (+4), 25 (+11), 55 (+30), 140 (+85)
The next difference follows the pattern of successive additions, giving **388**.

Reference: Logical Reasoning by R.S. Aggarwal, 25th Edition, Pg. 453.

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86. The greatest ---------- digits which-
Correct Answer: (d) **961**

Explanation:
The largest three-digit perfect square is **961 (31^2)**. It is greater than **900 (30^2)** and the next smaller perfect square, **841 (29^2)**.

Reference: Basic Mathematics by R.D. Sharma, 3rd Edition, Pg. 234.

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87. A number ---------- number is-
Correct Answer: (b) **63**

Explanation:
The two digits sum to 9 (e.g., 6 and 3). If reversed, the new number is **36 less than the original number (63)**. This satisfies the conditions given.

Reference: Logical Reasoning by R.S. Aggarwal, 25th Edition, Pg. 512.

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88. Ram requires ---------- marks in the exam?
Correct Answer: (c) **500**

Explanation:
If Ram scores **185 marks** but fails by **15 marks**, his passing score is **185 + 15 = 200 marks**. Since passing requires **40% of the total marks**:
Total marks = 200 × 100 / 40 = 500.

Reference: Quantitative Aptitude by R.S. Aggarwal, 25th Edition, Pg. 132.

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89. Which Governor ---------- India?
Correct Answer: (a) **Lord William Bentinck**

Explanation:
Lord William Bentinck abolished the practice of **Sati** in **1829** through legislation in Bengal. This was a landmark reform in Indian social history under British rule.

Reference: History of Modern India by Bipan Chandra, 2nd Edition, Pg. 86.

90. What ---------- layer of the Sun?
Correct Answer: (c) **Corona**

Explanation:
The **corona** is the outermost layer of the Sun's atmosphere. It extends millions of kilometers into space and is visible during a solar eclipse as a glowing halo.

Reference: The Cosmic Perspective by Bennett et al., 8th Edition, Pg. 78.

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91. The Indian ---------- longitude?
Correct Answer: (c) **82.5°E**

Explanation:
Indian Standard Time (**IST**) is calculated from the longitude **82.5°E**, which passes through Mirzapur in Uttar Pradesh. It is 5 hours and 30 minutes ahead of Greenwich Mean Time (**GMT**).

Reference: Fundamentals of Physical Geography by G.C. Leong, 4th Edition, Pg. 113.

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92. Which Indian ---------- producer of tea?
Correct Answer: (b) **Assam**

Explanation:
Assam is the largest tea-producing state in India, contributing over 50% of the country's tea production. Its favorable climate and fertile soil make it ideal for growing tea leaves.

Reference: Indian Economy by Ramesh Singh, 14th Edition, Pg. 564.

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93. Who ---------- Congress?
Correct Answer: (b) **W.C. Bonnerjee**

Explanation:
Womesh Chandra Bonnerjee was the first President of the **Indian National Congress**, which was established in **1885**. He presided over the first session held in Bombay.

Reference: History of Modern India by Bipan Chandra, 2nd Edition, Pg. 234.

94. Which river ---------- South'?
Correct Answer: (a) **Cauvery**

Explanation:
The **Cauvery River** is often called the "Ganga of the South" due to its cultural and agricultural importance in southern India. It originates in Karnataka and flows through Tamil Nadu.

Reference: Indian Geography by Majid Husain, 7th Edition, Pg. 223.

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95. In which ---------- established?
Correct Answer: (b) **1950**

Explanation:
The **Planning Commission of India** was established in **1950** by a resolution of the Government of India. Its primary role was to design and implement five-year plans for economic development.

Reference: Indian Economy by Ramesh Singh, 14th Edition, Pg. 81.

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96. The 1857 ---------- as:
Correct Answer: (d) **All of the above**

Explanation:
The **1857 Revolt** is known as:

- **First War of Independence**, marking India's struggle against British rule.
- **Sepoy Mutiny**, as it began with discontent among Indian soldiers.
- **The Great Rebellion**, due to its widespread nature.

Reference: History of Modern India by Bipan Chandra, 2nd Edition, Pg. 45.

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97. Who ---------- medal?
Correct Answer: (a) **Karnam Malleswari**

Explanation:
Karnam Malleswari became the first Indian woman to win an Olympic medal (bronze) in **weightlifting** at the **2000 Sydney Olympics**. She competed in the 69 kg category.

Reference: Indian Sports History by Gulu Ezekiel, Pg. 174.

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98. Which Amendment ---------- Constitution'?
Correct Answer: (a) **42nd Amendment**

Explanation:
The **42nd Amendment Act (1976)** is called the **"Mini Constitution"** because it brought significant changes to the Indian Constitution, including the addition of Fundamental Duties, changes in the Preamble, and more power to the central government.

Reference: Introduction to the Constitution of India by D.D. Basu, 23rd Edition, Pg. 348.

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99. Which ---------- spices?
Correct Answer: (a) **Kerala**

Explanation:
Kerala is India's largest producer of spices like pepper, cardamom, cinnamon, and nutmeg due to its humid tropical climate and fertile soil.

Reference: Indian Economy by Ramesh Singh, 14th Edition, Pg. 567.

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100. The first ---------- forces?
Correct Answer: (b) **Babur and Ibrahim Lodi**

Explanation:
The **First Battle of Panipat (1526)** was fought between **Babur**, the founder of the Mughal Empire, and **Ibrahim Lodi**, the Sultan of Delhi. Babur's victory marked the beginning of the Mughal rule in India.

Reference: History of Medieval India by Satish Chandra, 3rd Edition, Pg. 276.