

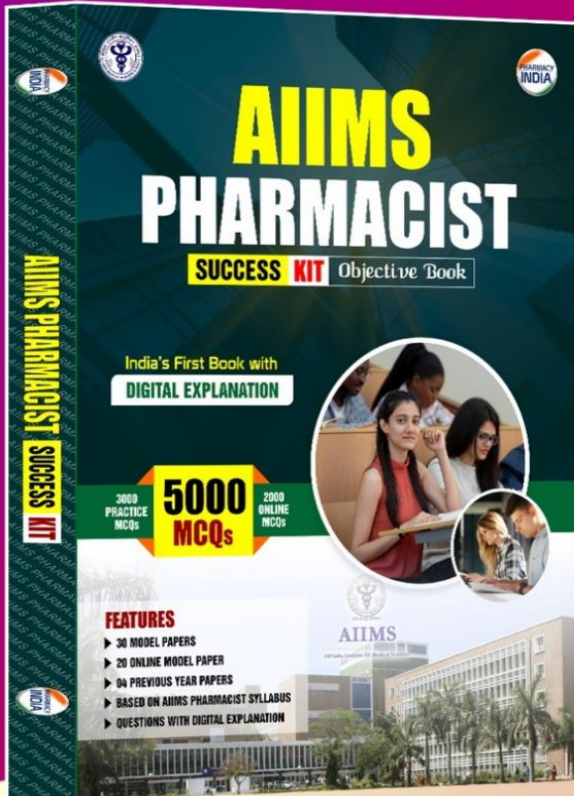


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## MODEL PAPER-10

### DIGITAL EXPLANATION

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1. Drug ----- related to-

**Correct Answer:** (b) Immunologically mediated reaction

**Explanation:**

Drug allergy is caused by an **immune system response** where the body perceives certain drugs as harmful invaders. This leads to the production of **antibodies**, resulting in symptoms like rash, itching, or anaphylaxis in severe cases.

**Reference:** Pharmacology and Therapeutics by Rang & Dale, 7th Edition, Pg. 115.

---

2. Which ----- protein?

(a) Benzidine test

**Explanation:**

The **Benzidine test** is primarily used to detect **hemoglobin** (indicative of blood) and is not specific for proteins. On the other hand:

- **Sulphosalicylic acid test, Heller's test, and Heat coagulation test** are all specific or commonly used tests for detecting proteins, particularly in urine.

**Reference:** Medical Laboratory Science by Godkar & Godkar, 4th Edition, Pg. 303.

---

3. Which ----- urine?

(a) Rothera's test

**Explanation:**

**Rothera's test** is a qualitative test performed to detect the presence of **ketone bodies** (such as acetoacetate and acetone) in urine. It involves the reaction of ketone bodies with sodium nitroprusside in an alkaline medium, producing a purple or violet color. This indicates the presence of ketone bodies, which is commonly seen in conditions like **diabetic ketoacidosis** or prolonged fasting.

**Reference:**

- Vasudevan DM, Sreekumari S, Vaidyanathan K. **Textbook of Biochemistry for Medical Students**. 9th Edition. Jaypee Brothers Medical Publishers; Chapter on Urine Examination Tests.

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- Kaplan LA, Pesce AJ. **Clinical Chemistry: Theory, Analysis, and Correlation**. Elsevier.

---

4. The ----- analyzed by:

**Correct Answer:** (d) Jaffe's test

**Explanation:**

**Jaffe's test** is a **colorimetric method** to measure **creatinine levels** in blood or urine. When **creatinine reacts with picric acid** in an alkaline medium, an **orange-red complex** is produced. This test is critical for assessing **renal function**.

**Reference:** Textbook of Clinical Chemistry by Burtis & Ashwood, 6th Edition, Pg. 212.

---

5. Which ----- newborns-

**Correct Answer:** (b) IgG

**Explanation:**

**IgG** is the only **immunoglobulin** that can cross the **placenta**, providing passive immunity to the fetus. It protects newborns against **infections** during the initial months of life.

**Reference:** Immunology by Janeway et al., 8th Edition, Pg. 137.

---

6. Hartnup's disease is ----- metabolism of-

**Correct Answer:** (d) Tryptophan

**Explanation:**

Hartnup's disease is a **hereditary metabolic disorder** resulting from the defective transport of **neutral amino acids** like tryptophan. This affects the production of **niacin**, leading to symptoms such as pellagra-like dermatitis and ataxia.

**Reference:** Clinical Chemistry and Molecular Diagnostics by Burtis & Bruns, 7th Edition, Pg. 459.

---

7. Chloramphenicol inhibits ----- by:

**Correct Answer:** (c) Inhibiting peptidyl transferase activity

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### Explanation:

**Chloramphenicol** inhibits bacterial protein synthesis by binding to the **50S ribosomal subunit**, preventing **peptidyl transferase activity**. This action blocks the elongation of the peptide chain, making it a broad-spectrum antibiotic.

**Reference:** Goodman & Gilman's Pharmacological Basis of Therapeutics, 13th Edition, Pg. 825.

---

8. An increase ----- may occur by-

**Correct Answer:** (d) All of these

### Explanation:

Factors such as **glucocorticoids**, **glycogen**, and **thyroxine** contribute to elevated blood glucose levels. **Glucocorticoids** increase gluconeogenesis, **glycogen** serves as a glucose reservoir, and **thyroxine** accelerates carbohydrate metabolism.

**Reference:** Textbook of Medical Physiology by Guyton & Hall, 13th Edition, Pg. 972.

---

9. Which is ----- derivative?

**Correct Answer:** (d) All the above

### Explanation:

All three forms—**D- $\alpha$ -tocopherol**, **D- $\beta$ -tocopherol**, and **D- $\gamma$ -tocopherol**—are **isoprenoid substituted 6-hydroxychromane derivatives**, collectively known as forms of **Vitamin E**, which act as antioxidants to protect cells from oxidative damage.

**Reference:** Textbook of Biochemistry by Harper, 31st Edition, Pg. 203.

---

10. Capsaicin is ----- acid

**Correct Answer:** (d) Trans-8-methyl-N-vanillyl-6-nonenamide

### Explanation:

**Capsaicin** is the active component in chili peppers responsible for their pungency. It is a **trans-isomer** of **N-vanillyl-6-nonenamide** and acts on **TRPV1 receptors**, causing a burning sensation and has applications in pain relief creams.

**Reference:** Natural Products Chemistry by S. S. Handa, 2nd Edition, Pg. 342.

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11. Umbelliferone is ----- of-

**Correct Answer:** (b) Coumarin

**Explanation:**

**Umbelliferone**, also known as **7-hydroxycoumarin**, is a **derivative of coumarin**. It is a natural product with **antioxidant** and **antibacterial** properties, commonly found in many plant species.

**Reference:** Phytochemistry by Jeffrey B. Harborne, 5th Edition, Pg. 198.

---

12. The average ----- Indian senna leaves is-

**(c) 17 to 20**

**Explanation:**

The **stomatal index** is an important microscopic parameter used in the identification of plant materials. For **Indian senna leaves** (*Cassia angustifolia*), the average stomatal index typically falls within the range of **17 to 20**, which is consistent with pharmacognostic standards. This measurement helps in the quality control and authentication of senna leaves as a medicinal raw material.

**Reference:**

- Kokate CK, Purohit AP, Gokhale SB. **Pharmacognosy**. 49th Edition. Nirali Prakashan; Chapter on Senna Leaves.
  - Indian Pharmacopoeia. **Cassia angustifolia Vahl (Senna)**. Quality Standards for Herbal Drugs.
- 

13. If a drug is ----- manner, then it is known as-

**Correct Answer:** (b) Misbranded

**Explanation:**

A drug is considered **misbranded** when it is not labeled properly as per **regulatory standards**. This includes missing **warnings**, incorrect **composition details**, or misleading claims, which can lead to regulatory action.

**Reference:** Drug and Cosmetic Act, 1940 (India), Section 17.

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14. Licenses ----- preparations are issued by-

**Correct Answer:** (c) Excise commissioner of the states

**Explanation:**

The **Excise Commissioner of the states** issues licenses for the manufacture of medicinal and toilet preparations containing alcohol, under the **Medicinal and Toilet Preparations Act, 1955**, ensuring compliance with excise duties and legal regulations.

**Reference:** Medicinal and Toilet Preparations Act, 1955, Section 6.

---

15. Licence for ----- C1 drugs is given in form-

**Correct Answer:** (c) 21

**Explanation:**

Form 21 is used to issue a retail license for **Schedule C and C1 drugs**, which include biological and special pharmaceutical products like vaccines and sera, under the **Drugs and Cosmetics Rules, 1945**.

**Reference:** Drugs and Cosmetics Rules, 1945, Rule 61.

---

16. Opium ----- part of-

**Correct Answer:** (d) None of these

**Explanation:**

The export of **opium** from India is highly regulated and not allowed through the listed ports. Authorized export is handled under **strict control** by the **Narcotics Control Bureau** via specific channels.

**Reference:** Narcotic Drugs and Psychotropic Substances Act, 1985, Section 12.

---

17. Nephritis ----- in-

**Correct Answer:** (a) Kidney

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### Explanation:

**Nephritis** refers to inflammation of the **kidneys**, often caused by infections or autoimmune diseases. Symptoms include **hematuria**, **proteinuria**, and impaired kidney function.

**Reference:** Robbins and Cotran Pathologic Basis of Disease, 9th Edition, Pg. 889.

---

18. A kidney ----- called as-

**Correct Answer:** (c) Nephrologists

### Explanation:

A **nephrologist** specializes in diagnosing and treating diseases related to the **kidneys**, including conditions like **nephritis**, **chronic kidney disease (CKD)**, and **renal failure**.

**Reference:** Harrison's Principles of Internal Medicine, 20th Edition, Pg. 2114.

---

19. Glucose ----- actively in-

**Correct Answer:** (c) Proximal convoluted tubule

### Explanation:

Glucose reabsorption occurs in the **proximal convoluted tubule (PCT)** of the nephron, facilitated by **sodium-glucose cotransporters (SGLTs)**. This process is critical for conserving glucose and maintaining blood sugar levels.

**Reference:** Textbook of Medical Physiology by Guyton & Hall, 13th Edition, Pg. 412.

---

20. The constituent ----- anhydrase is-

**Correct Answer:** (c) Zinc

### Explanation:

**Zinc** is an essential cofactor for **carbonic anhydrase**, an enzyme that catalyzes the reversible reaction between **carbon dioxide and water** to form carbonic acid. This enzyme is crucial for maintaining **acid-base balance**.

**Reference:** Lehninger Principles of Biochemistry, 7th Edition, Pg. 643.

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21. Which fruits ----- content?

Correct Answer: (a) Lime

Explanation:

Among the options, **lime** contains the highest **Vitamin C** concentration, which is vital for collagen synthesis, immune function, and antioxidant protection. **Citrus fruits** are well-known sources of Vitamin C.

Reference: Modern Nutrition in Health and Disease, 11th Edition, Pg. 470.

---

22. End product ----- digestion is-

Correct Answer: (d) Amino acid

Explanation:

Protein digestion results in the formation of **amino acids**, which are absorbed in the **small intestine** and used for synthesizing body proteins and other nitrogenous compounds.

Reference: Textbook of Biochemistry by Satyanarayana, 4th Edition, Pg. 293.

---

23. Neurotransmitter ----- junction is-

Correct Answer: (a) Ach (Acetylcholine)

Explanation:

**Acetylcholine (Ach)** is the primary neurotransmitter released at the **skeletal neuromuscular junction**, where it binds to **nicotinic receptors** to trigger muscle contraction.

Reference: Neuroscience: Exploring the Brain by Bear, 4th Edition, Pg. 168.

---

24. Intrinsic ----- absorption of-

Correct Answer: (a) Vit-B12

Explanation:

Intrinsic factor, a glycoprotein secreted by **parietal cells** in the stomach, is essential for the absorption of **Vitamin B12** in the **ileum**. Its deficiency leads to **pernicious anemia**.

Reference: Harrison's Principles of Internal Medicine, 20th Edition, Pg. 1090.

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25. Creatinine ----- measurement of-

**Correct Answer:** (b) Glomerular filtration rate

**Explanation:**

**Creatinine clearance** is a measure of the **glomerular filtration rate (GFR)**, which assesses kidney function. Creatinine is filtered by the glomeruli but not reabsorbed or secreted in significant amounts.

**Reference:** Textbook of Medical Physiology by Guyton & Hall, 13th Edition, Pg. 341.

---

26. The major ----- binding is-

**Correct Answer:** (b) Albumin

**Explanation:**

**Albumin** is the primary plasma protein responsible for **drug binding**, especially for lipophilic drugs. It influences drug **distribution, half-life, and bioavailability**.

**Reference:** Goodman & Gilman's Pharmacological Basis of Therapeutics, 13th Edition, Pg. 89.

---

27. Which of ----- emulsion?

**Correct Answer:** (b) Shake well before use

**Explanation:**

Pharmacists are advised to label emulsions with **"Shake well before use"** to ensure uniform distribution of the dispersed phase, as emulsions tend to separate into layers upon standing.

**Reference:** Remington: The Science and Practice of Pharmacy, 21st Edition, Pg. 1348.

---

28. An equal ----- drug solution form-

**Correct Answer:** (a) Vials

**Explanation:**

An equal volume of air is injected into **vials** to equalize pressure, facilitating easy withdrawal of the drug solution. This method is commonly used in **parenteral drug administration**.

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**Reference:** Remington: The Science and Practice of Pharmacy, 21st Edition, Pg. 1560.

---

**29. Which one ----- incompatibility?**

**Correct Answer:** (b) Lemon syrup - acetylsalicylic acid

**Explanation:**

Combining **lemon syrup** with **acetylsalicylic acid** results in **chemical incompatibility** due to the acidic medium, which can hydrolyze aspirin into **salicylic acid** and reduce its efficacy.

**Reference:** Pharmaceutical Chemistry by Bentley & Driver, 8th Edition, Pg. 286.

---

**30. Vanishing ----- classified as-**

**Correct Answer:** (d) An emulsion base

**Explanation:**

Vanishing cream is classified as an **emulsion base** due to its composition of water and oil phases stabilized by emulsifiers. It provides a non-greasy feel and absorbs quickly into the skin.

**Reference:** Cosmetic Formulation of Skin Care Products by Draelos, 2nd Edition, Pg. 105.

---

**31. Glycerine ----- primarily-**

**Correct Answer:** (d) As a contact lens solution

**Explanation:**

**Glycerine** is used as a humectant in **contact lens solutions**, helping to maintain lens hydration and prevent irritation by ensuring moisture retention on the ocular surface.

**Reference:** Essentials of Ophthalmology by Miller et al., 3rd Edition, Pg. 221.

---

**32. The sorbitan ----- known as-**

**Correct Answer:** (a) Span 20

**Explanation:**

**Sorbitan monolaurate**, commonly known as **Span 20**, is a **non-ionic surfactant** used in pharmaceutical and cosmetic formulations to stabilize emulsions.

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**Reference:** Aulton's Pharmaceutics: The Design and Manufacture of Medicines, 4th Edition, Pg. 367.

---

**33. Adult ----- gm of calcium.**

**Correct Answer:** (a) 1200-1400

**Explanation:**

The **adult human body** contains approximately **1200-1400 gm of calcium**, with the majority stored in **bones and teeth**. Calcium is essential for **bone structure, nerve conduction, and muscle contraction**.

**Reference:** Textbook of Medical Physiology by Guyton & Hall, 13th Edition, Pg. 991.

---

**34. Mepacrine ----- treatment of-**

**Correct Answer:** (c) Malaria

**Explanation:**

**Mepacrine HCl** (quinacrine) is used in the treatment of **malaria** due to its ability to interfere with the parasite's DNA and metabolic processes. It was widely used before modern antimalarial drugs.

**Reference:** Goodman & Gilman's Pharmacological Basis of Therapeutics, 13th Edition, Pg. 1160.

---

**35. Cyanocobalamin ----- is-**

**Correct Answer:** (b) Vit-B12

**Explanation:**

**Cyanocobalamin** is a synthetic form of **Vitamin B12**, essential for **red blood cell production, DNA synthesis, and nerve function**. Its deficiency can lead to **pernicious anemia** and neuropathy.

**Reference:** Harrison's Principles of Internal Medicine, 20th Edition, Pg. 1092.

---

**36. Insulin ----- form of-**

**Correct Answer:** (a) Subcutaneous injection

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**Explanation:**

**Insulin** is primarily administered via **subcutaneous injection** to ensure gradual absorption into the bloodstream, mimicking the body's natural insulin release.

**Reference:** Textbook of Medical Physiology by Guyton & Hall, 13th Edition, Pg. 938.

---

**37. Atropine ----- an-**

**Correct Answer: (b) Alkaloid (Tropane)**

**Explanation:**

**Atropine** is a **tropane alkaloid** derived from plants like **Atropa belladonna**. It is used to treat **bradycardia**, **reduce secretions**, and as an **antidote for organophosphate poisoning**.

**Reference:** Pharmacognosy by Trease and Evans, 16th Edition, Pg. 350.

---

**38. The chemical ----- aspirin is-**

**Correct Answer: (c) Acetyl salicylic acid**

**Explanation:**

**Acetyl salicylic acid**, commonly known as **aspirin**, is a nonsteroidal anti-inflammatory drug (**NSAID**) that works by inhibiting **cyclooxygenase enzymes (COX)**, reducing inflammation, pain, and fever.

**Reference:** Pharmaceutical Chemistry by Bentley & Driver, 8th Edition, Pg. 215.

---

**39. Caffeine ----- of-**

**Correct Answer: (d) Xanthine**

**Explanation:**

**Caffeine** is a **methylxanthine derivative**, known for its **stimulatory effects** on the central nervous system by blocking **adenosine receptors**, leading to increased alertness and reduced fatigue.

**Reference:** Goodman & Gilman's Pharmacological Basis of Therapeutics, 13th Edition, Pg. 727.

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40. Piperazine ----- form of-

Correct Answer: (c) Injection

Explanation:

**Piperazine citrate** is often administered via **injection** for its use as an **anthelmintic drug**, treating intestinal parasitic infections like **ascariasis** and **enterobiasis**.

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 792.

---

41. Diuretics ----- used to-

Correct Answer: (c) Increase the urine volume

Explanation:

**Diuretics** are medications used to **increase urine output** by promoting the excretion of sodium and water. They are commonly prescribed for conditions like **hypertension**, **edema**, and **heart failure**.

Reference: Textbook of Medical Physiology by Guyton & Hall, 13th Edition, Pg. 449.

---

42. Quinidine ----- a-

Correct Answer: (c) Antiarrhythmic agent

Explanation:

**Quinidine** is classified as a **Class I antiarrhythmic agent**, which works by blocking **sodium channels**, stabilizing the cardiac rhythm in conditions like **atrial fibrillation** and **ventricular tachycardia**.

Reference: Harrison's Principles of Internal Medicine, 20th Edition, Pg. 1576.

---

43. Vitamin D ----- as-

Correct Answer: (d) Calciferol

Explanation:

**Calciferol** is a form of **Vitamin D**, essential for calcium absorption in the intestines and maintaining bone health. It is synthesized in the skin upon exposure to **UVB radiation** from sunlight.

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Reference: Modern Nutrition in Health and Disease, 11th Edition, Pg. 147.

---

44. Propyl ----- is a/an-

Correct Answer: (c) Anti-oxidant

Explanation:

**Propyl gallate** is an **antioxidant** used to prevent oxidation in fats and oils, extending the shelf life of food and pharmaceutical products by stabilizing free radicals.

Reference: Handbook of Food Additives by Thomas Furia, 2nd Edition, Pg. 128.

---

45. Metronidazole ----- of-

Correct Answer: (c) Nitroimidazole

Explanation:

**Metronidazole** is a derivative of **nitroimidazole**, effective against anaerobic bacteria and protozoa. It works by disrupting DNA synthesis, making it a first-line treatment for **amoebiasis** and **trichomoniasis**.

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 748.

---

46. Analgesic ----- used-

Correct Answer: (d) To relieve body pains

Explanation:

**Analgesic drugs** like paracetamol and ibuprofen are used to **relieve pain** by inhibiting **prostaglandin synthesis** or blocking pain signals in the central nervous system.

Reference: Goodman & Gilman's Pharmacological Basis of Therapeutics, 13th Edition, Pg. 994.

---

47. Choral ----- a/an-

Correct Answer: (a) Hypnotic

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**Explanation:**

**Choral hydrate** is a **hypnotic** drug used to treat **insomnia** or induce sedation. It works by depressing the central nervous system and is often used before medical procedures.

**Reference:** Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 740.

---

**48. Mandelic ----- used as-**

**Correct Answer:** (a) **Urinary anti-infective drug**

**Explanation:**

**Mandelic acid** is used as a **urinary anti-infective agent**, particularly in acidic urine. It acts by disrupting bacterial metabolism, especially for gram-negative infections.

**Reference:** Comprehensive Pharmacy Review by Leon Shargel, 7th Edition, Pg. 458.

---

**49. Cannabis ----- yields-**

**Correct Answer:** (d) **Hemp**

**Explanation:**

**Cannabis sativa** yields **hemp**, which is used in textiles, paper, and biodegradable products. It contains low levels of **tetrahydrocannabinol (THC)**, making it non-psychoactive.

**Reference:** Trease and Evans Pharmacognosy, 16th Edition, Pg. 530.

---

**50. A list ----- schedule-**

**Correct Answer:** (a) **E**

**Explanation:**

Schedule **E** of the **Drugs and Cosmetics Rules, 1945** contains a list of allopathic poisons that require special labeling and handling due to their toxic nature.

**Reference:** Drugs and Cosmetics Rules, 1945, Schedule E.

---

**51. Drug inspector ----- act-**

**Correct Answer:** (c) **21**

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### Explanation:

A **drug inspector** is appointed under **Section 21** of the **Drugs and Cosmetics Act, 1940** to regulate and monitor the quality, safety, and efficacy of drugs and cosmetics in the market.

**Reference:** Drugs and Cosmetics Act, 1940, Section 21.

---

52. The pharmacy ----- in-

**Correct Answer:** (b) 1948

### Explanation:

The **Pharmacy Act** was passed in **1948** to regulate the profession of pharmacy in India, ensuring the development and maintenance of standards in pharmacy education and practice.

**Reference:** Pharmacy Act, 1948, Chapter I.

---

53. The dangerous ----- year-

**Correct Answer:** (d) 1930

### Explanation:

The **Dangerous Drugs Act, 1930**, governs the regulation of dangerous drugs, including production, possession, and trade, to prevent misuse and illicit trafficking.

**Reference:** Dangerous Drugs Act, 1930, Section 2.

---

54. The pH ----- calculated by-

**Correct Answer:** (c) Henderson Hasselbach equation

### Explanation:

The **Henderson-Hasselbach equation** is used to calculate the pH of buffer solutions by relating the concentration of acid and conjugate base in the system.

**Reference:** Principles of Biochemistry by Lehninger, 7th Edition, Pg. 312.

---

55. Bubble ----- determine-

**Correct Answer:** (a) The surface tension of the liquid in capillary tubes

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### Explanation:

The **bubble point test** determines the **surface tension** of liquids in capillaries, ensuring uniformity in pharmaceutical formulations like emulsions and suspensions.

**Reference:** Pharmaceutical Engineering by Subrahmanyam, 5th Edition, Pg. 145.

---

56. Ionic ----- by-

**Correct Answer:** (a)  $\text{m}^2\text{s}^{-1} \text{ volt}^{-1}$

### Explanation:

**Ionic mobility** is denoted by  $\text{m}^2\text{s}^{-1} \text{ volt}^{-1}$ , representing the velocity of ions moving under the influence of an electric field in a solution.

**Reference:** Physical Chemistry by Atkins, 11th Edition, Pg. 575.

---

57. O/w ----- produces-

**Correct Answer:** (b) **Transparent emulsion**

### Explanation:

An **o/w (oil-in-water) microemulsion** containing hydrophilic surfactant produces a **transparent emulsion** due to the small size of dispersed oil droplets, which scatter minimal light.

**Reference:** Aulton's Pharmaceutics: The Design and Manufacture of Medicines, 4th Edition, Pg. 422.

---

58. Rotosort ----- used-

**Correct Answer:** (a) **To separate unfilled capsules**

### Explanation:

**Rotosort** is an automated equipment used in the pharmaceutical industry to **separate unfilled capsules**, ensuring quality control during the manufacturing process.

**Reference:** Pharmaceutical Manufacturing Handbook by Shayne Cox Gad, 2nd Edition, Pg. 856.

---

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59. Anaemia ----- treated with-

Correct Answer: (c) Ferrous sulfate

Explanation:

**Ferrous sulfate** is commonly used to treat **iron-deficiency anemia** by replenishing iron stores required for **hemoglobin synthesis** and oxygen transport.

Reference: Harrison's Principles of Internal Medicine, 20th Edition, Pg. 689.

---

60. An example ----- agent is-

Correct Answer: (a) Amantadine

Explanation:

**Amantadine** is used as an antiparkinsonian agent. It increases **dopamine release** and blocks NMDA receptors, helping alleviate symptoms of **Parkinson's disease**.

Reference: Goodman & Gilman's Pharmacological Basis of Therapeutics, 13th Edition, Pg. 1015.

---

61. Bemegride ----- as an-

Correct Answer: (a) Analeptic

Explanation:

**Bemegride** is a central nervous system **analeptic**, used to counteract **barbiturate overdose** by stimulating the respiratory and vasomotor centers in the medulla.

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 711.

---

62. Piperazine ----- of-

Correct Answer: (d) Anthelmintic

Explanation:

**Piperazine** is an **anthelmintic drug** used to treat infections caused by roundworms and pinworms. It paralyzes the worms by blocking neuromuscular transmission, facilitating their expulsion.

Reference: Comprehensive Pharmacy Review by Leon Shargel, 7th Edition, Pg. 789.

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63. The gaseous ----- anesthetic is-

**Correct Answer:** (a) Cyclopropane

**Explanation:**

**Cyclopropane** is a gaseous **general anesthetic**, historically used for inducing anesthesia. It acts on the central nervous system, producing unconsciousness and muscle relaxation.

**Reference:** Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 754.

---

64. An example ----- emetic is-

**Correct Answer:** (a) Apomorphine HCl

**Explanation:**

**Apomorphine HCl** is a centrally acting **emetic** that stimulates the **chemoreceptor trigger zone (CTZ)** in the brain, inducing vomiting. It is used in poisoning cases to empty the stomach.

**Reference:** Goodman & Gilman's Pharmacological Basis of Therapeutics, 13th Edition, Pg. 1056.

---

65. The drug ----- typhoid is-

**Correct Answer:** (d) Chloramphenicol

**Explanation:**

**Chloramphenicol** is the drug of choice for treating **typhoid fever** caused by **Salmonella typhi**. It inhibits bacterial protein synthesis by binding to the **50S ribosomal subunit**.

**Reference:** Harrison's Principles of Internal Medicine, 20th Edition, Pg. 1376.

---

66. Anticonvulsant ----- is-

**Correct Answer:** (a) Clonazepam

**Explanation:**

**Clonazepam** is an **anticonvulsant** that enhances **GABAergic activity**, reducing neuronal excitability and preventing seizures. It is effective in treating **epilepsy** and anxiety disorders.

**Reference:** Goodman & Gilman's Pharmacological Basis of Therapeutics, 13th Edition, Pg. 202.

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67. Gabapentin ----- of-

**Correct Answer:** (a) Anti-convulsant

**Explanation:**

**Gabapentin** is an **anti-convulsant** drug that modulates **calcium channel activity**, reducing excitatory neurotransmitter release. It is used for treating **neuropathic pain** and epilepsy.

**Reference:** Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 698.

---

68. Sulphaguanidine ----- as an-

**Correct Answer:** (a) Anti-diarrhoea

**Explanation:**

**Sulphaguanidine** is used as an **anti-diarrheal agent**, effective against bacterial infections of the gastrointestinal tract. It inhibits bacterial folic acid synthesis.

**Reference:** Comprehensive Pharmacy Review by Leon Shargel, 7th Edition, Pg. 763.

---

69. Liver ----- is used as-

**Correct Answer:** (c) Haematinics

**Explanation:**

**Liver extracts** are classified as **haematinics**, aiding in the production of **red blood cells** by supplying essential nutrients like iron and Vitamin B12.

**Reference:** Harrison's Principles of Internal Medicine, 20th Edition, Pg. 1048.

---

70. Phenylpropanolamine ----- as-

**Correct Answer:** (a) Nasal decongestant

**Explanation:**

**Phenylpropanolamine** is a **nasal decongestant** that works by stimulating **alpha-adrenergic receptors**, causing vasoconstriction and reducing nasal congestion.

**Reference:** Goodman & Gilman's Pharmacological Basis of Therapeutics, 13th Edition, Pg. 847.

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71. What is -----  $\text{Al}_2(\text{SO}_4)_3$ ?

Correct Answer: (c) 53.1%

Explanation:

The percentage of oxygen in **aluminum sulfate** ( $\text{Al}_2(\text{SO}_4)_3$ ) is calculated using its molecular weight and the atomic weights of oxygen. **Oxygen atoms contribute significantly** to its molecular mass.

Reference: Physical Chemistry by Atkins, 11th Edition, Pg. 256.

---

72. Which of ----- barrier easily?

Correct Answer: (d) Cetirizine

Explanation:

**Cetirizine**, a second-generation antihistamine, does not cross the **blood-brain barrier** easily, reducing sedative effects. It is effective for treating **allergic conditions** like rhinitis.

Reference: Essentials of Medical Pharmacology by K.D. Tripathi, 8th Edition, Pg. 818.

---

73. Ranitidine ----- ring.

Correct Answer: (d) Pyridine

Explanation:

**Ranitidine**, a histamine  $\text{H}_2$ -receptor antagonist, contains a **pyridine ring**, essential for its structure and mechanism in reducing stomach acid secretion.

Reference: Textbook of Medicinal Chemistry by Ashutosh Kar, 7th Edition, Pg. 342.

---

74. Aspirin ----- estimated by-

Correct Answer: (c) Acid-base titration

Explanation:

**Aspirin** can be estimated using **acid-base titration**, as it reacts with a strong base to form its salt. This method quantifies its purity and concentration in formulations.

## Model Paper – 10 | Detailed Solutions

**Reference:** Pharmaceutical Analysis by Watson, 3rd Edition, Pg. 186.

---

75. Which of ----- drug?

**Correct Answer:** (c) Eucatropine

**Explanation:**

**Eucatropine** is an **anticholinergic drug** used in ophthalmology. It blocks **muscarinic receptors**, causing pupil dilation (**mydriasis**) for diagnostic purposes.

**Reference:** Goodman & Gilman's Pharmacological Basis of Therapeutics, 13th Edition, Pg. 1051.

---

76. The process ----- language is called-

**Correct Answer:** (b) Compiling

**Explanation:**

**Compiling** is the process of translating high-level programming language into **machine code** that can be executed by a computer's processor, ensuring efficient performance.

**Reference:** Computer Science: An Overview by J. Glenn Brookshear, 12th Edition, Pg. 120.

---

77. In MS ----- slides is-

**Correct Answer:** (b) Landscape

**Explanation:**

In **MS PowerPoint**, the default slide orientation is **landscape**, offering a wider view suitable for presentations on screens and projectors.

**Reference:** Microsoft PowerPoint User Guide, Official Documentation, 2022.

---

78. The temporary ----- called-

**Correct Answer:** (b) Clipboard

**Explanation:**

The **clipboard** is a temporary storage area where data like text or images is stored when copied or cut, allowing users to paste it into another location.

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**Reference:** Microsoft Windows User Guide, Official Documentation, 2022.

---

**79. Which of ----- Windows?**

**Correct Answer:** (c) F5

**Explanation:**

The **F5 key** refreshes the active window in **Microsoft Windows**, updating the content displayed on the screen without closing the window.

**Reference:** Microsoft Windows User Guide, Official Documentation, 2022.

---

**80. The primary ----- is to-**

**Correct Answer:** (a) Store and retrieve data efficiently

**Explanation:**

The main purpose of a **database** is to store and retrieve data efficiently, enabling users to organize, access, and analyze information systematically.

**Reference:** Database Systems: Design, Implementation, and Management by Carlos Coronel, 12th Edition, Pg. 20.

---

**81. 38% ----- number?**

**Correct Answer:** (b) 350

**Explanation:**

If 38% of a number is **133**, the number is calculated as:

**Number =  $(133 \times 100) / 38 = 350$ .**

**Reference:** Basic Mathematics by B. S. Grewal, 7th Edition, Pg. 24.

---

**82. Find the ----- 15625:**

**Correct Answer:** (a) 125

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### Explanation:

The square root of **15625** is found using factorization or a calculator:

$$15625 = 125 \times 125 \rightarrow \sqrt{15625} = 125.$$

**Reference:** Modern Arithmetic by R. S. Aggarwal, 4th Edition, Pg. 45.

---

**83. Complete the ----- 122880:**

**Correct Answer:** (d) 12288

### Explanation:

The series pattern involves multiplying by increasing numbers:

$$32 \times 2 = 64, 64 \times 4 = 256, 256 \times 6 = 1536, 1536 \times 8 = 12288.$$

**Reference:** Quantitative Aptitude by R. S. Aggarwal, 25th Edition, Pg. 161.

---

**84. Raghu ----- years:**

**Correct Answer:** (b) 3 years

### Explanation:

Using the formula for simple interest:

$$SI = (P \times R \times T) / 100,$$

$$300 = (1000 \times 6 \times T) / 100 \rightarrow T = 3 \text{ years.}$$

**Reference:** Basic Mathematics by B. S. Grewal, 7th Edition, Pg. 32.

---

**85. In a ----- sold:**

**Correct Answer:** (a) 64.5 kg

### Explanation:

To calculate 4.5% of **1500 kg**:

$$\text{Quantity sold} = (1500 \times 4.5) / 100 = 64.5 \text{ kg.}$$

**Reference:** Modern Arithmetic by R. S. Aggarwal, 4th Edition, Pg. 67.

---

## Model Paper – 10 | Detailed Solutions

86. Find the ----- .....

**Correct Answer:** (b) R19I

**Explanation:**

The series alternates letters and numbers while decreasing by 2 and 1, respectively:

**X24C → V22E → T20G → R19I.**

**Reference:** Quantitative Aptitude by R. S. Aggarwal, 25th Edition, Pg. 194.

---

87. Find the ----- .....

**Correct Answer:** (a) T20

**Explanation:**

The series decreases alphabetically and numerically by 2:

**Z26 → X24 → V22 → T20.**

**Reference:** Quantitative Aptitude by R. S. Aggarwal, 25th Edition, Pg. 196.

---

88. If MEAT ----- ZEBRA?

**Correct Answer:** (c) 2662181

**Explanation:**

Each letter is replaced by its position in the alphabet (Z = 26, E = 5, B = 2, R = 18, A = 1):

**ZEBRA = 26 5 2 18 1 = 2662181.**

**Reference:** Logical Reasoning by Arun Sharma, 6th Edition, Pg. 150.

---

89. In a ----- DISEASE?

**Correct Answer:** (a) 4985195

**Explanation:**

Using the same coding scheme, DISEASE corresponds to **4 9 8 5 1 9 5** based on alphabetical positions.

**Reference:** Logical Reasoning by Arun Sharma, 6th Edition, Pg. 152.

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90. Venu ----- to Venu?

**Correct Answer:** (b) **Maternal aunt**

**Explanation:**

Amit's mother is Avani's brother's wife, making her Venu's **maternal aunt**.

**Reference:** Logical Reasoning by R. S. Aggarwal, 4th Edition, Pg. 98.

---

91. Who ----- India?

**Correct Answer:** (a) **Lord Dalhousie**

**Explanation:**

**Lord Dalhousie** introduced the **Doctrine of Lapse** in India, a policy used by the British to annex princely states without a male heir to the throne.

**Reference:** A History of Modern India by Bipan Chandra, 2nd Edition, Pg. 188.

---

92. Which Indian ----- wheat?

**Correct Answer:** (b) **Uttar Pradesh**

**Explanation:**

**Uttar Pradesh** is the leading wheat producer in India due to its fertile **Gangetic plains**, favorable climate, and advanced irrigation systems.

**Reference:** Indian Geography by Majid Husain, 6th Edition, Pg. 222.

---

93. Who was ----- Sabha?

**Correct Answer:** (a) **Meira Kumar**

**Explanation:**

**Meira Kumar** became the first woman **Speaker of the Lok Sabha** in 2009, serving as the presiding officer of the Indian Parliament's lower house.

**Reference:** Indian Polity by M. Laxmikanth, 6th Edition, Pg. 420.

---

## Model Paper – 10 | Detailed Solutions

94. The All ----- year?

Correct Answer: (b) 1906

Explanation:

The **All India Muslim League** was founded in **1906** at Dhaka to represent Muslim political interests during British rule in India.

Reference: A History of Modern India by Bipan Chandra, 2nd Edition, Pg. 299.

---

95. Which of ----- estuary?

Correct Answer: (a) Narmada

Explanation:

The **Narmada River** forms an **estuary** at its mouth in the Arabian Sea. Estuaries are formed when rivers meet the sea, mixing fresh and saline water.

Reference: Indian Geography by Majid Husain, 6th Edition, Pg. 157.

---

96. Which article ----- birth?

Correct Answer: (b) Article 15

Explanation:

**Article 15** of the Indian Constitution prohibits discrimination on the grounds of **religion, race, caste, sex, or place of birth**, ensuring equality.

Reference: Indian Polity by M. Laxmikanth, 6th Edition, Pg. 96.

---

97. Which of ----- world?

Correct Answer: (b) Majuli

Explanation:

**Majuli**, located in Assam, is the largest **river island** in the world, formed by the Brahmaputra River. It is known for its unique culture and biodiversity.

Reference: Indian Geography by Majid Husain, 6th Edition, Pg. 102.

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98. Who led ----- Kanpur?

Correct Answer: (b) Nana Saheb

Explanation:

**Nana Saheb** led the revolt of **1857** in Kanpur. He fought against British rule and played a key role in India's First War of Independence.

Reference: A History of Modern India by Bipan Chandra, 2nd Edition, Pg. 127.

---

99. Which state ----- Census?

Correct Answer: (a) Kerala

Explanation:

**Kerala** has the highest literacy rate in India, as per the latest census, due to its strong emphasis on education and social development programs.

Reference: Indian Demography and Census Data by Ashish Bose, 5th Edition, Pg. 53.

---

100. The Suez ----- bodies?

Correct Answer: (a) Mediterranean Sea and Red Sea

Explanation:

The **Suez Canal** connects the **Mediterranean Sea** to the **Red Sea**, serving as a vital trade route between Europe and Asia, bypassing the longer route around Africa.

Reference: World Geography by Harm J. de Blij, 5th Edition, Pg. 192.