UNIT-1

MCQ

1. Metabolism process takes place in _____
   a. Heart **c. Liver**
   b. Kidney d. Brain
2. pH of blood is _____
   a. 6.8 c. 7.9
   b. **7.4** d. 8.2
3. _____ are the structural units of nervous system, comprising of fibres which convey electric impulse to nerve cell
   a. **Neuron** c. Proton
   b. Neutron d. Both (a) and (b)
4. Which of the following vitamin is not fat soluble?
   a. A c. D
   b. **C** d. E
5. Chemotherapeutic agents are used in treatment of _____ disease
   a. Metabolic c. Cardiac
   b. Infectious d. All of the above
6. Introduction of nitro group in _____ compounds increases their toxicity
   a. Aliphatic
   b. Aromatic
   c. Cyclic
   d. Both (a) and (b)
7. Blood contains _____% of protein
   a. **6.5** c. 5.6
   b. 6.9 d. 6.0
8. Which of the following group is used in drugs used for lowering blood pressure?
   a. Nitro **c. Nitrite**
   b. Nitrile d. Halogens
9. Diagnostic agents are used to _____ abnormal conditions
   a. Cure **c. Detect**
   b. Alter d. None of the above
10. Extensive drug binding in body occurs in _____
    a. Liver c. Stomach
    b. Intestines **d. Blood**

Short Question

1. Define: Drug and Prodrug
2. Write down the charecteristics of an ideal drug
3. Explain Biotransformation of drug
4. Explain the mechanism of drug binding
5. Define Pharmacophore with suitable examples
6. Define Chemotherapeutic drugs with examples
7. Explain the effect of structural isomerism on chemical activity of drug
8. Explain effect of acidic group on chemical activity of drug

Long Question

1. Explain in detail classification of drugs on the basis of therapeutic action
2. Write notes on:
   a. Prodrug
   b. Molecular pharmacology
   c. Pharmacodynamic agents
3. Differentiate between Chemotherapeutic agents and Pharmacodynamic agents
4. Explain in detail the effects of alkyl group on chemical activity of drug.
5. Explain the effects of following groups on chemical activity of drugs:
   a. Nitro and nitrite group
   b. Unsaturation

c. Halogen

6. Write note on
   a. Drug addiction
   b. Drug toxicity
   c. Drug administration
   d. Drug dosage form

UNIT-2

MCQ

1. Sulfa drugs contain _____ group in their chemical structure
   a. $–SO_3H$
   b. $–SO_2$
   c. –SH
   d. $–SO_2NH_2$
2. Sulponamides are used as _____ agents
   a. Chemotherapeutic
   b. CNS stimulatants
   c. Arrhythmic
   d. None of the above
3. Sulphonamides can replace _____ drugs
   a. Anti-ulcer
   b. Anti-inflamatory
   c. Anti-biotic
   d. Anti-tuberculosis
4. Which of the following can be used in the treatment of leprosy?
   a. Sulphathiazole
   b. Sulphadoxine
   c. Sulphapyridine
   d. Sulphadiazine
5. Which of the following is a derivative of salicylic acid?
   a. Paracetamol
   b. Aspirin
   c. Oil of winter green
   d. Both (b) and (c)
6. Which acid is present in perspiration?
   a. Propionic acid
   b. Butanoic acid
   c. Lactic acid
   d. Tartaric acid
7. Ibuprofen has which of the following properties
   a. Anti-inflamatory
   b. Anti-pyretic
   c. Analgesic
   d. All of the above
8. Ethyl ether of paracetamol is known as _____
   a. Analgin
   b. Phenyl butazone
   c. Phenacetin
   d. Naproxen
9. The main constituent of Iodex is _____
   a. Aspirin
   b. Ethyl salicylate
   c. Methyl salicylate
   d. Both (a) and (c)
10. Analgesics are the class of drugs that ____
    a. Relieves pain
    b. Lowers body temperature
    c. Stimulates CNS
    d. All of above

Short Questions

1. Tabulate the commonly used sulfa drugs with their name and groups
2. Write down the synthesis of sulphaacetamide

3. Define: Antipyretics and write the synthesis of paracetamol
4. Write the synthesis of analgin
5. Define: Anti-inflamatory drugs and give two examples
6. Give detailed classification of analgesics

Long Questions

1. Write the uses of various sulfa drugs
2. Give the manufacture and synthesis of Ibuprofen
3. Explain mode of action of Anti-pyretics and Analgesics
4. Write a brief note on Anti-fungual agents
5. Write synthesis of Succinylsulphathiazole and Pthalylsulphathiazole

UNIT 3

MCQ:

1. Which of following is not a fat soluble vitamin?
   (a) Vitamin D **(b) Vitamin C**
   (c) Vitamin E (d) Vitamin A
2. Which of following is water soluble vitamin?
   (a) Vitamin A (b) Vitamin D
   (c)Vitamin B-complex (d) Vitamin K
3. IUPAC name of vitamin A_1 is:
   (a) Retinol (b) Retinoic acid
   (c)Retinal (d) Dehydroretinol
4. How many International units of vitamin A_1 are required for pregnant women?
   (a) 7000 (b) 700
   (c)1500 (d) 70
5. Vitamin D_2 is isolate from:
   (a) Lumisterole (b) Vitamin D_1
   (c)Ergosterole (d) Calciferol
6. Deficiency of Vitamin D causes:
   (a) Night blindness **(b) Rickets**
   (c)Beri-beri (d) Hardening of cornea
7. Which of following is excellent antioxidant?
   (a) Vitamin D_2 (b) Vitamin D_1
   (c)Vitamin E (d) Vitamin C
8. Vitamin K_2 is isolate from:
   (a) Alfaalfa (b) Carrot
   (c)Spinach **(d) Bacteria**
9. Deficiency of Vitamin C leads to:
   (a) Night blindness **(b) Scurvy**
   (c)Beriberi (d) Rickets
10. The symptoms of scurvy are:
    (a) Weight loss (b) Swelling of gums
    (c) Loosening of teeth **(d) All of these**
11. Which of the following hormone is secreted in Pancreas?
    (a) Thyroid (b) Ovaries
    (c) Testes **(d) Insulin**
12. Which of the following hormone is secreted in Duodenal?
    (a) Insulin (b) Ovaries
    (c) Adrenaline **(d)Enterogasterone**

Short Questions:

1. Define Vitamin.
2. Enlist the classification of vitamin.
3. Give the function and deficiency of Vitamin A_1.
4. Give the structure of following:
   - Vitamin A_1
   - Vitamin A_2
   - Vitamin D_2
   - Vitamin D_4
   - Vitamin K_1
   - Vitamin E
   - Riboflavin (vitamin B_2)
   - Vitamin H (Biotin)
   - Vitamin B_{12}.
5. Give the occurrence of following.
   - Vitamin A_1
   - Vitamin A_2

- Vitamin D_2
- Vitamin D_4
- Vitamin K_1
- Vitamin E
- Riboflavin (vitamin B_2)
- Vitamin H (Biotin)
- Vitamin B_{12}
- Vitamin C

6. Define hormones.
7. Difference between vitamins and hormones.
8. Enlist the functions of hormones.
9. Enlist the classification of hormones.
10. Enlist the types of sex hormones.
11. Enlist two functions of testosterone.
12. Enlist two functions of Estrogen.

Long Questions

1. What is a hormone? Explain the function of it. Enlist various names of glands where it secreted.
2. Give classification of vitamins and discuss occurrence, properties and deficiency diseases of vitamin A
3. Discuss occurrence, synthesis and deficiency diseases of vitamin C.
4. Discuss occurrence, functions and deficiency diseases of vitamin D with suitable structures.
5. Discuss occurrence, functions and deficiency diseases of vitamin K and vitamin E.
6. Discuss occurrence, functions and deficiency diseases of vitamin B_1 and vitamin B_2.
7. Discuss occurrence, functions and deficiency diseases of vitamin B_6 and vitamin B_{12}.
8. Give the classification of hormones and discuss the sex hormones.
9. Define hormones. Enlist its classification and compare hormones with vitamins.
10. Explain about Adrenal cortex hormone.

UNIT 4

MCQ:

1. Which of following is needed for the biosynthesis of cysteine?
   (a) Oxygen (b) Carbon (c)Nitrogen **(d) Sulphur**
2. Which of following is needed for the synthesis of nucleic acid?
   (a) Sulphur (b) Carbon
   (c)Nitrogen **(d) Phosphorus**
3. Which of following is occurs as a by-product in the production of antibiotics?
   (a) Vitamin A **(b) Vitamin B_{12}**
   (c) Vitamin C (d) Vitamin B_2
4. IUPAC name of Vitamin B_{12} is:
   (a) Pyridoxine (b) Ascorbic acid
   (c) Folic acid **(d) Cyanocobalamine**
5. In aerobe condition, oxygen required by organisms is:
   (a) 12%(b) 11%(c) 31%**(d) 21%**
6. The substance, containing microorganism or other material that is introduced in inoculation is known as:
   (a) Medium (b) Culture **(c) Inoculum** (d) Agar
7. The preservation of biological specimens by rapid freezing and rapid dehydration in a high vacuum is known as:
   (a) Inoculation **(b) Lyophilisation** (c) Incubation (d) Sterilization
8. The subjecting of cultures of microorganisms to conditions favourable to their growth
   (a) Inoculation (b) Lyophilisation **(c) Incubation** (d) Sterilization
9. A substance used to provide nutrients for the growth and multiplication of organisms is known as:
   (a) Medium (b) Culture (c) Inoculum (d) Agar
10. Which of the following is destroy the ferment and retard the fermentation reaction?
    (a) Additives (b) Culture **(c) Preservatives** (d) Agar

SHORT QUESTIONS:

1. Define the following terms:
   - Fermentation
   - Agar
   - Aerobe
   - Anaerobe
   - Culture
   - Inoculum
   - Sterilization
   - Lyophilisation
   - Medium
   - Incubation
   - Aerobic microorganisms
   - Anaerobic microorganisms
   - Microacrophilic microorganisms
   - Facultative microorganisms
2. Enlist the Prerequisites of a good fermentation process.
3. Enlist the various chemical elements used for cell growth.
4. Enlist the various factors affecting the fermentation process.
5. Enlist the types of microorganisms on the basis of response to gases oxygen.
6. Enlist the various criteria to inoculate the fermentation.
7. Give the properties of penicillin.
8. Give the structure of penicillin and tetracycline.
9. Give the structure of Vitamin B_{12}.
10. Give the occurrence and function of Vitamin B_{12}.

LONG QUESTIONS:

1. What is Nutrients? Explain various nutrients in detail.
2. Explain the various factors affecting the fermentation process.
3. Explain the development of inoculum and enlist the characteristics of Enzymes.
4. Explain the properties, structure and activity of Penicillin.
5. Write short note on Tetracycline with its clinical properties and structures.
6. Discuss occurrence, synthesis and deficiency diseases of Vitamin B_{12}.