Full Marks: 50   Time: 2 Hours

Answer Question Number 1 (Compulsory) and any 4 from the rest

1. Answer **any five** of the following: 2×5   10
   a. What is Chiastoneury?
   b. Write down the full form of SRY& DSS.
   c. What is resting membrane potential?
   d. Write two salient features of Phylum Apicomplexa.
   e. What is tagmatization.
   f. Write two non reducing disaccharides.
   g. Distinguish between Polyp and Medusa.
   h. What is choanocyte?
   i. What is gluconeogenesis?
   j. State the role of β - clamp loader in prokaryotes.

2. a) Describe different types of coral reefs with suitable diagrams.   5
                              or
   Describe the structure & function of the following:
   i) Gastrozooid *or* Gonozooid ii) Aurophore *or* Pneumatophore   2.5 x 2   5
   b) Draw and discuss the events of Torsion in Gastropods?   5
3. a) State the role of Y chromosome in sex determination of human. Discuss the phenomenon of Sex Reversal in human.   2.5+2.5 = 5
   b) i)What is Pribnow box?
   ii) What is linker DNA?
   iii) State the Rho independent transcription process in Prokaryotes.   1+1+3=5
                              or
   i) What is Klenow fragment?
   ii) Give the roles of the following enzymes:
      Topoisomerase (Type I&II), Helicase, Primase   2+3=5

4. (a)What is nerve impulse? Discuss the formation of Action potential with a graphical representation.
                                                                               1+4 = 5
                              or
   Describe the propagation of nerve impulse through the synapses with proper diagramme.   5

   (b)How oxidoreductases and isomerases work? Discuss with specific examples.   2.5+2.5=5

5. How does different bonds are responsible for the protein complexity. What is the significance of metamerism.   6+4=10

6. Describe the gross morphology of *Parameocium* sp. with neat diagram. Justify inclusion of *Entamoeba* sp. in phylum Sarcomastigophora.   6+4=10
7. Place the following animals in their respective taxon (as per your syllabus) with at least two diagnostic features for each taxons: (*any four*)   2.5X4=10
   (a) Sea hare, (b) Liver fluke,(c) Sea lily, (d)Plasmodium,(e)Neptune's Cup, (f) Loligo, (g) Chiton

8. What is Water vascular system? Name the different components of it. Describe the structure of Tube feet with a neat diagramme.   2+2+6=10

[Marks will be deducted for bad hand writing, untidiness and spelling mistakes]