



JAIN COLLEGE, JAYANAGAR

I PUC Mock Paper 2016

Subject : Biology (36)

Duration: 3 hrs 15 minutes

Max.Marks :70

GENERAL INSTRUCTIONS:

- i) This question paper consists of four parts A, B, C and D. Part D consists of two parts, Section-1 and Section-II.
- ii) All the parts are compulsory.
- iii) Draw the diagrams whenever necessary. Unlabelled diagrams or illustrations do not attract any marks.

Part - A

Answer the following questions in *one* word or *one* sentence each:

10x1=10

1. Where is conjunctive tissue present in plants?
2. Name the Kingdom which is eukaryotic and saprophytic.
3. What is the amount of oxygen supplied to tissue through every 100ml of oxygenated blood under normal physiological conditions?
4. Name the vascular connection that exists between the digestive tract and the liver.
5. Expand RuBisCO.
6. Where do you find the following conditions of microtubules?
a) 9+0 b) 9+2
7. Define water potential.
8. Which cells of the retina enable us to see coloured objects?
9. Which hormone plays an essential role in ripening of fruits?
10. *Calotes* belongs to which group of organisms?

Part - B

Answer any FIVE of the following questions in 3-5 sentences each, wherever applicable:

5x2=10

11. Briefly explain the significant features of the class Aves.
12. Write 4 significant features of Pteridophytes.
13. Where do you find the following structures?
a) Operculum b) Choanocytes c) Comb plates d) Parapodia
14. Name any two types of epithelial tissue. State examples for each.
15. Define a) Purkinje fibres b) Bundle of His
16. List any 2 physiological effects each of gibberellins and abscisic acid.
17. Distinguish between red and white muscles.
18. Briefly explain the role of stomach in digestion.

Part C

Answer any FIVE of the following questions in 40-80 words each, wherever applicable:

5x3=15

19. Comment on the structure of DNA with a diagram.
20. a) Grass tips are grazed by animals. How do they grow in length?
b) State differences between i) collenchyma and sclerenchyma
ii) xylem and phloem

21. Name the following
 - a) Gland involved in calcium homeostasis.
 - b) Cortical portions projecting between the medullary pyramids in the human kidney.
 - c) A loop of capillary running parallel to the Henle's loop.
22. Draw a neat labelled diagram of a dicot root.
23. Diagrammatically represent the action of enzyme nitrogenase in root nodules.
24. Write a short note on respiratory quotient.
25. a) Classify chromosomes on the basis of the position of centromere.
 - b) Name the bond found in polysaccharides.
26. How does oxygen get transported in body? Explain.

Part - D
Section I

Answer any FOUR of the following questions in 200-300 words each, wherever applicable: 4x5=20

27. Explain the stages of mitosis with neat labelled diagrams.
28. Which theory best describes the ascent of Sap in plants? Explain in detail.
29. Explain Krebs cycle.
30. With a neat labelled diagram explain the chemical synapse.
31. Illustrate and explain the types of Aestivation in plants.
32. a) List out 6 characteristic features of the Family to which pea plant belongs to.
 - b) Write any 4 economic importance of the same family. (3+2)

Section II

Answer any THREE of the following questions in 200-250 words each, wherever applicable:3x5=15

33. a) Differentiate between spring wood and autumn wood.
 - b) Draw a neat labelled diagram of excretory system of earthworm.
34. a) Explain the fluid mosaic model of plasma membrane. Who proposed it?
 - b) Draw a neat labelled diagram of chloroplast. (3+2)
35. What do you understand by Kranz Anatomy? How is it useful to C4 plants? Explain with the help of the pathway.
36. Draw a neat labelled diagram of a nephron.
37. a) Explain the role of pancreas in glucose metabolism.
 - b) Name two hormones secreted by adrenal medulla and two secreted by adrenal cortex.
