



K17U 0330

Reg. No. :

Name :

VI Semester B.Sc. Degree (CBCSS – Regular) Examination, May 2017
CORE COURSE IN BOTANY/PLANT SCIENCE
(2014 Admn.)
6B13BOT/PLS : Cell and Molecular Biology

Time : 3 Hours

Max. Marks : 40

SECTION – A

Answer **all**.

1. What is the correct sequence of protein (P) and lipid (L) molecules in the plasma membrane as per Robertson's Unit membrane model ?
a) L-P-P-L b) P-L-L-P c) P-P-L-L d) L-P-L-P
2. Which of the following is true about Z DNA ?
a) 12 bp per turn b) 18 Å diameter
c) Left handed coiling d) All these
3. Among the following, in which process RNA is formed from DNA ?
a) Replication b) Translation
c) Transcription d) Transformation
4. Choose the incorrect statement about prokaryotes.
a) Ribosomes are of the 70 S type
b) DNA is not complexed with histone proteins
c) mRNA is short lived
d) Cell division is by mitosis

(4x1=4)

SECTION – B

Answer **any eight**.

5. Give a short description of cell cycle.
6. Explain polymorphism with reference to DNA.
7. Write about cytoskeleton.
8. What is crossing over ? Name the meiotic stage at which it happens. Mention the genetic effect of crossing over.

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9. Differentiate anticodon and codon.
10. Explain endomitosis. Where do you find this phenomenon ?
11. How does transition differ from transversion ?
12. Give a diagrammatic sketch of lac operon. Mention the names of the enzymes transcribed.
13. Draw a neat diagram of a mitochondrion and label all the parts.
14. Write a note on Turner's syndrome.
15. What is meant by inversion ? Mention the different types of inversion.
16. What is mitotic apparatus ? What is its role in cell division ? (8×2=16)

SECTION – C

Answer **any four**.

17. Describe the different types of chromosomes.
18. Give an account of the post transcriptional modification of mRNA in eukaryotes.
19. What is meant by trisomy ? Give the name of the congenital malformation in humans resulting from sex chromosomal trisomy and list the salient characteristics of such a patient.
20. Give a general account of plastids.
21. With the help of a diagram explain the morphology of Golgi apparatus.
22. Explain the modern interpretation of cell theory. (4×3=12)

SECTION – D

Answer **any one**:

23. With the help of neatly labeled diagrams, describe the important events that occur during prophase I of meiosis.
 24. Giving suitable labeled sketches, write about the different models proposed to explain the organization of plasma membrane.
 25. Explain in detail the steps involved in the process of synthesis of an RNA strand from a DNA duplex. (1×8=8)
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