Roll No.....

Y–20

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XIARJKUT23

9220

BIOTECHNOLOGY

[Maximum Mar

Time : 3.00 Hours]

Section–A

(MCQ/Objective Type Questions) 1

1. (i) 70 S Ribosomes are found in :

(A) Prokaryotes (B) Mitochondria

(C) Chloroplasts (D) All of these

(ii) Development of embryo and seeds without fertilization is called

(A) Apomixis (B) Conjugation

(C) Apospory (D) Sexual reproduction

(iii) Which of the following is produced as a defense mechanism a fungal infection only ?

(A) Cork (B) Phytoalixins

(C) Heatshock proteins (D) None of these

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(iv) What are Holandric Genes ?

(v) The dihybrid ratio obtained after selfing in the F_2 generation is ..... . (Fill in the blank)

(vi) The size of virus is generally :

(A) 20–300 nm (B) 600–700 nm

(C) < 5000 nm (D) None of these

(vii) The intervening sequences in eukaryotic genes are called 'Introns'. (True/False)

(viii) Which of the following is a gene-mutation ?

(A) Deletion (B) Polyploidy

(C) Nullisomy (D) Both (B) and (C)

(ix) What type of paper is used in Electrophoresis ?

(x) The basic stains are used to stain ..... . (Fill in the blank)

Section–B

(Very Short Answer Type Questions) 2 each

2. What is Bt Cotton ?

3. What do you know about India's first genetically engineered vaccine ?

4. Define a Vacuole.

5. What is Secondary Cell Wall ?

6. What is Cholesterol ?

7. What is the function of Photo System I (PSI) ?

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8. Write a very short note on Nuclear Genome.

9. Give any *two* uses of pH Meter.

Section–C

(Short Answer Type Questions) 3 each

10. Explain the structure and functions of Endoplasmic Reticulum (ER).

11. Write a note on Homeostasis ?

12. What are Polysaccharides ?

13. Write down the properties of Nucleotides.

14. What are the functions fo Glycogen in the body ?

15. What is Calvin Cycle ?

16. Write a note on Fermentation.

17. What is Multiple Allelism ? Explain with the help of an example.

Section–D

(Long Answer Type Questions) 5 each

18. What is Cell Cycle ? Describe the various stages involved in cell cycle.

Or

What are the different types of immune responses in human beings ?

19. What are Enzymes ? Discuss the classification of enzymes.

Or

Describe the structure of Proteins.

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20. *Define Linkage.* Discuss the phenomenon of crossing over.

Or

Describe the chromosome theory of Inheritance.

21. Explain the steps involved in the process of Translation.

Or

Discuss the regulation of gene expression in prokaryotes with the help of lac-operon model.

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