

D 91047

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Name.....

Reg. No.....

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2015

(UG-CCSS)

Core Course—Biotechnology

BT 5B 01—CELL AND MOLECULAR BIOLOGY

Time : Three Hours

Maximum : 30 Weightage

I. Objective Type Questions. Answer *all* questions :

Choose the correct answer :

1 Two substances are transported in the same direction :

- (a) Antiport. (b) Co-transport.
(c) Symport. (d) Uniport.

2 Who discovered lysosome :

- (a) Christian De Duve. (b) Bouch.
(c) Esser and Novicoff. (d) J. Rhodin.

3 Which is a G-protein coupled receptor ?

- (a) Rhodopsin. (b) NO.
(c) Inositol. (d) Calmodulin.

4 Tumors of pigment cells are known as :

- (a) Gliomas. (b) Glomangioma.
(c) Melanomas. (d) Sarcoma.

5 Which one is fibrous structure/protein ?

- (a) Collagens. (b) Laminin.
(c) Cytotactin. (d) Fibronectin.

6 Which chaperon protein help for protein folded inside the mitochondrial matrix :

- (a) hsp 70. (b) hsp 60.
(c) hsp 80. (d) Translocator.

Fill in the blanks

7 The genes that are expressed in different cells or tissues are called _____

8 The direction of helix of A-DNA is _____

9 Transposon in yeast is known as _____

10 RNA with catalytic function is known as _____

Turn over

- 11 _____ enzyme that both 5' 3' and 3' → 5' exonuclease activity.
 12 _____ proteinaceous infectious particles.

(12 x $\frac{1}{4}$ = 3 weightage)

II. Short Answer Type Questions. Answer *all nine* questions :

- | | |
|---------------------------------|-------------------------|
| 13 Glucose transporters. | 14 Group translocation. |
| 15 IS element. | 16 C3 plants. |
| 17 Site specific recombination. | 18 Mismatch repair. |
| 19 Drosophila P element. | 20 RNA editing. |

(9 x 1 = 9 weightage)

III. Short Essay or Paragraph Questions. Answer any *five* questions :

- 21 Salient features of Genetic code.
 22 Explain trp operon.
 23 Explain molecular mechanism of recombination.
 24 Discuss briefly post translational modification.
 25 Describe the mechanism of transposition of prokaryotes.
 26 Discuss the different stages of cancer and major genes involved in cancer.
 27 Give a brief account on G-protein linked cell signalling.
 28 Explain Hershey and Chase experiment which **prove** DNA as genetic material.

(5 x 2 = 10 weightage)

IV. Essay questions. Answer any *two* questions :

- 29 Describe cell cycle and its regulation.
 30 Explain extrinsic and intrinsic apoptosis pathways.
 31 Explain transcription in eukaryotes.

(2 x 4 = 8 weightage)