

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 1215

Roll No.

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B. Tech.

(Semester II) Even Semester Theory Examination, 2012-13

INTRODUCTION TO BIO SCIENCES

Time : 3 Hours]

[Total Marks : 80

Note : Attempt questions from each Section as per instructions.

Section-A

Attempt *all* parts of this question.

2×8=16

1. (a) What are chloroplasts and plastids?
- (b) What are vacuoles?
- (c) What are plasmids?
- (d) Which is the biological molecule that contains the genetic information that is transmitted hereditarily and controls the cellular functioning?
- (e) How does mitosis participate in the growth of pluricellular organisms?
- (f) How many cells are made after meiosis I and meiosis II?
- (g) What is genetic engineering?
- (h) Concerning reproduction what is the function of the testicles?

Section-B

Attempt any *three* parts of this question.

8×3=24

2. (a) Differentiate between plant and animal cells.
- (b) Discuss the structure of nucleotides and nucleosides with the help of diagrams.
- (c) Explain briefly asexual reproduction and sexual reproduction process.
- (d) What is human genome project? Discuss the salient features of human genome.
- (e) What is menstrual cycle? Diagrammatically present various events during a menstrual cycle.

Section-C

Attempt *all* questions of this Section.

8×5=40

3. Discuss the structure and functions of mitochondria.

Or

With the help of flow chart, discuss the various steps involved in glycolysis/EMP pathway.

4. What are non-genetic RNA? Discuss various types of non-genetic RNA and their functions.

Or

With the help of suitable diagram, discuss the process of protein synthesis.

5. Discuss diagrammatically the various stages in the mitosis of a plant cell.

Or

Differentiate between mitosis and meiosis.

6. What are stem cells? Discuss the embryonic and adult stem cells.

Or

List the various approaches for obtaining the desired DNA segment for cloning and describe any one of them in detail.

7. Write short notes on any two of the following :

- (i) Pregnancy and Embryonic Development
- (ii) Reproductive Health Problems
- (iii) MTP.