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**BF—79—2016**

**FACULTY OF SCIENCES**

**B.Sc. (First Year) (First Semester) EXAMINATION**

**OCTOBER/NOVEMBER, 2016**

**(CBCS Pattern)**

**BOTANY**

**Paper II**

**(Cell and Molecular Biology)**

**(MCQ + Theory)**

**(Friday, 21-10-2016)**

**Time : 10.00 a.m. to 12.00 noon**

*Time—2 Hours*

*Maximum Marks—40*

*N.B. :— (i) Attempt All questions.*

*(ii) All questions carry equal marks.*

*(iii) Use separate answer sheet for MCQs (OMR-Sheet) and descriptive questions.*

*(iv) Draw well labelled diagrams wherever necessary.*

**MCQ**

1. Choose *correct* answer of the following questions : 10

(i) The extrachromosomal genetic material of prokaryotic cell is :

- (A) Nucleolus (B) Centriole  
(C) Nucleoid (D) Plasmids

(ii) The type of Ribosomes in eukaryotic cell is :

- (A) 50'S' (B) 60'S'  
(C) 70'S' (D) 80'S'

(iii) Terminal part of the chromosome is :

- (A) Centromere (B) Telomere  
(C) Satellite (D) Chromomere

(iv) In prophase-I of meiosis, synapsis occurs in :

- (A) Zygotene (B) Leptotene  
(C) Pachytene (D) Diplotene

(v) The polytene chromosomes are found in :

- (A) Kidney (B) Pancreas  
(C) Salivary glands (D) Ovary

P.T.O.

- (vi) A sequence of three unpaired nitrogen bases of *m*-RNA are called as :  
 (A) Codons (B) Anticodons  
 (C) Stop codons (D) Non-sense codons
- (vii) Semi-conservative method of DNA replication was proposed by :  
 (A) Watson and Crick (B) Beadle and Tatum  
 (C) Meselson and Stahl (D) T.H. Morgan
- (viii) The nitrogen base which is not present in DNA is :  
 (A) Adenine (B) Guanine  
 (C) Thymine (D) Uracil
- (ix) The term Mutation was coined by :  
 (A) Hugo DeVries (B) J.G. Mendel  
 (C) T.H. Morgan (D) H.G. Khorana
- (x) The technique that detect genetic abnormalities during pregnancy is :  
 (A) Alkaptonuria (B) Amniocentesis  
 (C) Albinism (D) Sickle cell anemia

### Theory

2. Describe the ultrastructure and functions of endoplasmic reticulum. 10

*Or*

Describe in brief :

- (a) Nuclear membrane 5  
 (b) Morgan's views of gene concept. 5

3. Describe the structure of typical chromosome. 10

*Or*

Describe in brief :

- (a) Cell cycle 5  
 (b) Phenylketonuria. 5

4. Describe Watson and Crick's model of DNA. 10

*Or*

Describe in brief :

- (a) Structure of *m*-RNA 5  
 (b) Alkaptonuria. 5