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V—76—2017

FACULTY OF SCIENCE

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

OCTOBER/NOVEMBER, 2017

(CBCS/CGPA Pattern)

BOTANY

Paper II (CCB)—I

(Cell and Molecular Biology)

(MCQ & Theory)

(Tuesday, 14-11-2017)

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 diagram wherever necessary.

MCQ

1. Choose *correct* answer of the following questions : 10
- (i) 80 'S' ribosomes are present in :
 - (a) Eukaryotic cells
 - (b) Prokaryotic cells
 - (c) Eukaryotic and prokaryotic cells
 - (d) None of the above
 - (ii) The Lysosomes are first reported by :
 - (a) Robert Brown
 - (b) Flemming
 - (c) Porter
 - (d) Deduve

P.T.O.

- (iii) Diagrammatic representation of Karyotype is called as :
- | | |
|---------------|----------------|
| (a) Idiogram | (b) Phenogram |
| (c) Histogram | (d) Cardiogram |
- (iv) The spindle fibres are attached to the chromosomes during cell division to :
- | | |
|-----------------|----------------|
| (a) Chromomeres | (b) Centromere |
| (c) Satellite | (d) Telomere |
- (v) The cytokinesis means the division of :
- | | |
|-----------------|----------------|
| (a) Cytoplasm | (b) Protoplasm |
| (c) Nucleoplasm | (d) Nucleus |
- (vi) In RNA, thymine is replaced by :
- | | |
|-------------|--------------|
| (a) Adenine | (b) Uracil |
| (c) Guanine | (d) Cytosine |
- (vii) The Nucleotide is the combination of :
- | | |
|--|--|
| (a) Sugar and Nitrogen base | |
| (b) Phosphate and Sugar | |
| (c) Phosphate and Nitrogen base | |
| (d) Sugar, Phosphate and Nitrogen base | |
- (viii) The Zig-Zag arrangement of base pairs is present in :
- | | |
|-----------|-----------|
| (a) A-DNA | (b) B-DNA |
| (c) Z-DNA | (d) C-DNA |
- (ix) The technique of detection of genetic abnormalities during the pregnancy is known as :
- | | |
|------------------|---------------------|
| (a) Alkaptonuria | (b) Phenylketonuria |
| (c) Albinism | (d) Amniocentesis |
- (x) The urine of affected person turns black are the symptoms of :
- | | |
|------------------|------------------------|
| (a) Alkaptonuria | (b) Sickle cell anemia |
| (c) PKU | (d) Albinism |

Theory

2. Describe ultrastructure and functions of Nucleus in detail. 10

Or

Describe in brief :

- (a) Endoplasmic Reticulum 5
- (b) Phenylketonuria. 5

3. Describe prophase-I of Meiosis cell division. 10

Or

Describe in brief :

- (a) Lampbrush chromosome 5
- (b) Morgan's view on classical concept of gene. 5

4. What are nucleic acids ? Describe types and functions of RNA. 10

Or

Describe in brief :

- (a) Nucleoside and Nucleotide 5
- (b) Amniocentesis. 5