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Y—101—2019

FACULTY OF SCIENCE

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

NOVEMBER/DECEMBER, 2019

(CBCS Pattern)

BOTANY

Paper II (CCB-I)

(Cell and Molecular Biology)

(MCQ & Theory)

(Thursday, 19-12-2019)

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) Draw well labelled diagrams wherever necessary.

MCQ

1. Choose *correct* answer of the following questions : 10
- (i) In prokaryotic cell, genetic material is :
 - (a) Nucleoid
 - (b) Centrosome
 - (c) Nucleolus
 - (d) Cytoplasm
 - (ii) The main controlling centre of the cell is :
 - (a) Nucleolus
 - (b) Nucleus
 - (c) Lysosomes
 - (d) Ribosomes
 - (iii) The lamp brush chromosomes occurred in the oocytes of which stage :
 - (a) Leptotene
 - (b) Zygotene
 - (c) Pachytene
 - (d) Diplotene

P.T.O.

- (iv) In prophase-I of meiosis, synapsis occurs during :
- (a) Leptotene (b) Pachytene
(c) Zygotene (d) Diplotene
- (v) The *correct* sequence of cell cycle is :
- (a) G_1 , S, M, G_2 (b) S, M, G_1 , G_2
(c) M, S, G_2 , G_1 (d) G_1 , S, G_2 , M.
- (vi) In RNA, thymine is replaced by :
- (a) Uracil (b) Guanine
(c) Adenine (d) Cytosine.
- (vii) In DNA, the complementary base pairing is :
- (a) A = T, G = C (b) T = A, C = G
(c) A = U, G = C (d) A = U, C = G
- (viii) A sequence of three unpaired nitrogen base on t-RNA is called as :
- (a) Codon (b) Anticodon
(c) Stop codon (d) Initiation codon
- (ix) In children, phenylketonuria disease caused by the absence of enzyme :
- (a) Homogentisate oxydase
(b) Polymerase
(c) Phenyl alanine hydroxylase
(d) Ligase.
- (x) The detection of genetic abnormalities during the pregnancy is known as :
- (a) Sickle cell anemia (b) Phenyl Ketonuria
(c) Albinism (d) Amniocentesis

Theory

2. Describe ultrastructure and functions of Nucleus. 10

Or

Describe in brief :

(a) 80 'S' ribosomes. 5

(b) classical concept of gene. 5

3. What is Mitosis ? Describe the process of mitosis in detail.

Or

Describe in brief :

(a) Pachytene Stage 5

(b) Alkaptonuria 5

4. What are Nucleic acids ? Describe the structure and functions of RNA. 10

Or

Describe in brief :

(a) Nucleoside and Nucleotide 5

(b) Sickle cell anemia. 5