

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2019
(Second Semester)

Branch - **MICROBIOLOGY**

CELL BIOLOGY & MICROBIAL GENETICS

Time: Three Hours

Maximum: 75 Marks

SECTION-A HO Marks!

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 x 1 = 10)

- 1 The term cell was coined by

(i) Schewann	(ii) Robert Hooke
(iii) De Bary	(iv) Tatum
- 2 Micro filaments are composed mainly of a protein called

(i) Actin	(ii) Tubulin
(iii) Myosin	(iv) Chitin
- 3 Best material for the study of mitosis in laboratory is

(i) Anther	(ii) Root tip
(iii) Leaf tip	(iv) Ovary
- 4 In a somatic cell cycle, DNA synthesis takes place

(i) G1 phase	(ii) G2 prophase
(iii) S phase	(iv) Prophase of mitosis
- 5 The basic repeating units of a DNA molecule is

(i) Nucleoside	(ii) Nucleotide
(iii) Histones	(iv) Amino acids
- 6 Z-DNA have a

(i) Double helical nature	(ii) Zig-Zag appearance
(iii) Uracil base	(iv) Single stranded nature
- 7 The function of enzyme involved in base excision repair is

(i) Addition of correct base	(ii) Addition of correct nucleotide
(iii) Removal of incorrect base	(iv) Removal of phosphodiester bond
- 8 An alteration in a nucleotide sequence that changes a triplet coding for an amino acid into a termination codon is

(i) Nonsense mutation	(ii) Mutagenesis
(iii) Mutation	(iv) Mutagen
- 9 Transduction was discovered by

(i) Griffith	(ii) Zinder and Lederberg
(iii) Lederberg Hayes Woolman	(iv) Iwanowsky
- 10 If the F factor is attached to the bacterial genome the donor is called as

(i) F+	(ii) F ⁺⁺
(iii) F ⁺ super strains	(iv) Hfr strains

Cont...

SECTION - B (35 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 7 = 35)

- 11 a State the functions of nucleus.
OR
b Explain the role of lysosomes.
- 12 a State the programmed cell death.
OR
b Explain cell to cell signaling in eukaryotes.
- 13 a Classify the types of plasmids.
OR
b Summarize the applications of transposons.
- 14 a Analyze SOS repair.
OR
b How will you conduct toxicity test?
- ! 5 a Bring out role of Rec A.
OR
b Explain F' transfer.

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Give an account on structure and functions of mitochondria.
-] 7 Enumerate the meiosis with neat sketch.
- 18 Discuss on Griffith's testing.
- 19 Elucidate DNA damage and repair.
- 20 Discuss on transduction.

Z-Z-Z

END