



Sanjay Ghodawat University, Kolhapur

2017-18

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FY B. Tech

FYT 116

May-2018

27/6/18

School of Technology

Biology for Engineers

Re End Semester Examination (ESE)

Semester II

Max Marks: 100

Time: 3 Hrs.

Instructions for Students: 1) All questions are compulsory.
2) Draw neat labelled diagrams, wherever necessary.

Q.1). Attempt any two questions. (20 x 2 = 40 marks)

A) Differentiate in between Plant and Animal cell. (min: 10 points) (20 marks)

B). Write short notes on the following: (Any four) (20 marks)

- | | | |
|--------------|---------------------------|-------------------|
| i. Nucleus | ii. Cytoskeleton elements | iii. Stem cell |
| iv. Lysosome | v. The cell | vi. Reflex action |

C). Multiple choice questions: (20 marks)

i. The Cell theory was proposed by _____ and _____?

- | | |
|-------------------------|--------------------------|
| a) Watson and Crick | b) Schlieden and Schwann |
| c) Pauley and McCartney | d) Hershey and Chase |

ii. Cell membrane is also known as _____?

- | | |
|--------------------|----------------|
| a) Plasma sheet | b) Cell plasma |
| c) Plasma membrane | d) Plasma coat |

iii. The branched tubular structure in mitochondria that indicate the density of respiration are called as _____?

- a) F1 particles b) Cristae
- c) Cisternae d) Ribosomes

iv. The basic structural and functional unit of life is the _____?

- a) Cell receptor b) Cell
- c) Neuron d) Chromosome

v. _____ Nucleotides are a component of?

- a) Endoplasmic reticulum b) Nucleolus
- c) DNA d) Protein

vi. The cell was discovered and named by _____?

- a) Robert Hooke b) Robert Brown
- c) Robert Downey Jr. d) Robert Koch

vii. Based on the source, stem cells are classified as _____ and _____ stem cells?

- a) Pluripotent and Totipotent b) Endodermic and Ectodermic
- c) Embryonic and Adult d) Unipotent and Multipotent

viii. _____ protein gives elasticity to the cell?

- a) Chitin b) Fibrin
- c) Endorphin d) Elastin

ix. The signal propagator fluid in nervous system and neuron are called as _____?

- a) Vitreous humour b) Synovial fluid
- c) Neurotransmitters d) Semen

x. The nucleus was first discovered by _____?

- a) Robert Hooke b) Robert Koch
- c) Robert Brown d) Robert Downey Jr.

Q.2). Write in brief (Question A is compulsory and attempt any one of Question B).
(10 x 2 = 20 marks)

A). Differentiate between Prokaryotic and Eukaryotic ribosomes. (min: 5 points)

(10 marks)

B). Briefly describe Lysosomes with phagocytosis?

(10 marks)

OR

B). Represent the following with a diagram.

(10 marks)

i). DNA double helix structure. ii). Nerve cell.

Q.3). Write essay on the following. (20 x 2 = 40)

A). Define Cell cycle and explain in detail the phases of mitosis and meiosis with diagrams? (20 marks)

B) Protein structural conformations and protein vibrations? (20 marks)
