T.Y.BSc
Sem V

Subject. Biotechnology P.I
Cell Biology. and Medical Biotechnology (Rev) (R-2016) 17

95

**QP Code : 77020**

(2½ Hours) [ Total Marks :75

**N.B. :** (1) **All** questions are **compulsory**
(2) **All** questions carry **equal** marks.
(3) **Draw** a neat labelled **diagram** wherever **necessary.**

1. (a) Give an example of any **one** of the following 1
   (i) Microtubule associated protien
   (ii) Actin sequestering protein

   (b) Explain any **one** of the following:- 2
   (i) Axonal transport
   (ii) Protofilament

   (c) Give an account of any **two** of the following:- 12
   (i) Role of microtubules in mitosis.
   (ii) Drugs affecting the dynamics of cytoskeletal structures
   (iii) Assembly and disassembly of intermediate filaments
   (iv) Importance of Sliding filament model in muscle contractility

2. (a) Define any **three** of the following:- 3
   (i) Aquaporins
   (ii) Permeability
   (iii) Glycocalyx
   (iv) Microvilli
   (v) Amphipathic molecule
   (vi) Sphingolipids

   (b) Answer any **two** of the following 12
   (i) Give functions of cell coat.
   (ii) Explain the structural organisation of a gap junction.
   (iii) Using a suitable example explain active transport in cells.
   (iv) Elaborate on membrane fluidity and its importance to cell.

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**KS-Con. 3395-16.**

3. (a) Do as directed (Attempt any **three**):- 12

(i) Name one selective media for *S.aureus*.
(ii) Name the causative agent of Black Piedra.
(iii) Fill in the blank._____ E. coli produces shiga toxins responsible for diarrhoea.
(iv) Define Viral Tropism.
(v) Give significance of DOTS
(vi) State True or False- Definitive host of Plasmodium is mosquito

(b) Attempt any **two** of the following:-

(i) What are cutaneous mycoses? Explain any five types
(ii) Elaborate on the clinical methods of detecting TB.
(iii) Explain treatment , prevention and control of *S.aureus* infections.
(iv) Describe the pathogenicity of *S.typhi*.

4. (a) Give significance of any **three** of the following:- 12

(i) Peplomers
(ii) Plaque assay
(iii) Capsid
(iv) One step growth experiment
(v) Early mRNA
(vi) Integrase enzyme

(b) Discuss any **two** of the following.

(i) Properties of virus that helps it to survive in nature
(ii) Methods of virus purification
(iii) Lytic cycle of T4 phage
(iv) Reproduction of an animal virus

5. Write short notes on any **three** of the following. 12

(i) Structure of HIV
(ii) Treatment and lab diagnosis of malaria
(iii) Baltimore classification of viruses
(iv) Viruses and cancer
(v) Proteins associated with intracellular transport
(vi) Proteoglycans

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