

M.Sc. 3rd Semester Examination, 2011

PHYSIOLOGY

(Human Physiology)

PAPER – PHY- 302 (XIV)

Full Marks : 40

Time : 2 hours

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

UNIT – 27

Answer any *two* questions

1. (a) What is peptidoglycan? Write down its importance.

- (b) Describe the important features of cell wall structure of Gram-negative bacteria. $(2 + 3) + 5$
2. (a) Describe the critical morphological features of Hepatitis B virus.
- (b) What are HBcAg and HBsAg ?
- (c) Discuss the basic modes of transmission of hepatitis through Hepatitis A and Hepatitis B viruses. $3 + \left(1\frac{1}{2} + 1\frac{1}{2}\right) + 4$
3. (a) Write down some important significance of micro-organisms normally present in milk.
- (b) Name two common pathogenic bacteria present in milk.
- (c) Discuss in brief the different stages of tuberculosis. 10
4. (a) State the basic characteristics of chemotherapeutic agents.

- (b) What do you understand by 'broad spectrum' antibiotics?
- (c) Mention the structural features of polyene antibiotics. Write the structure of any two of them. (3 + 2) + (3 + 2)

UNIT – 28

Answer any *two* questions from the following

1. Describe the function of T-helper cell, macrophage (H \odot) and cytolytic T-cell in cell mediated immunity. 10
2. How complements are activated by the three pathways? State your answer with suitable flowchart. What is the biological functions of complements. 7 + 3
3. (a) Write the different receptor and their ligand present in the surface of the B-cell.

(b) Describe the mechanism of Type-I hypersensitivity reactions. 4 + 6

4. Write short notes on any *two* of the following : 5 x 2

(i) Immunological titer

(ii) Ouchterlony double diffusion (ODD)

(iii) Cytokines

(iv) Antibody diversity.
