Five Year Integrated M.Sc. Examination, 2017

Semester - VI

Course: LS-3-6-2

(Life Science-II: Infectious Disease & Immunology)

Time: Four Hours **Full Marks: 80**

Questions are of value as indicated in the margin.
Answer ***Question No.1*** and ***any six*** from the rest.

1. Write short notes on ***any ten*** of the following: 2x10=20
   a) Malignant malaria
   b) How do you distinguish a *Culex* from an *Anopheles* mosquito?
   c) Name the class of Arthropoda which constitute the vectors.
   d) What is PAMP?
   e) What do you mean by necrotic symptoms?
   f) What is disease triangle?
   g) What is ETI?
   h) What are the major classes of secreted antibodies?
   i) Mention two examples of aminoglycosides and its mode of action.
   j) What are live attenuated vaccines and give two examples.
   k) Stage 2 of *Mycobacterium tuberculosis* infection.
   l) What are interleukins and which one is the most prominent one for B-Cell maturation?

2. Write in brief the pathogenesis, metabolic adaptation and expression of virulence genes in *Entamoeba histolytica.* 10

3. a) Give a salient feature of the Insect vectors.
   b) Describe the morphological features of sandfly and a tse-tse fly.
   c) Name the pathogens they transmit to human.
   d) What are the methods for controlling these vectors? 3+3+2+2=10

4. a) Characterize the pathogen causing late blight of potato.
   b) Describe the symptoms and disease cycle for this disease.
   c) Mention suitable management strategies to control this disease. 2+(2+4)+2=10

5. a) Describe the structure of Tobacco Mosaic Virus (TMV).
   b) Name the pathogen causing bacterial blight of rice. What are the major sources of primary inoculum for this disease?
   c) Write a note on phytoalexins. 3+(1+2)+4=10

6. Write about exogenous and endogenous pathways of antigen presentation. 10

7. a) Write about cap-independent RNA translation of polio virus RNA.
   b) Briefly describe poly protein processing in Picorna virus. 5+5=10

8. Describe briefly the antibody structure in the context of Edelman and Porters experiments. 10

9. Write short notes on:
   a) Significance of J-Chain.
   b) Any two properties of antigen on immunogenecity.
   c) Mode of action of protectin and factor I. 2+4+4=10

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