2022

ZOOLOGY

(Honours)

Paper Code : X - A & B

[Microbiology and Immunology and Parasitology and Medical Zoology]

(New Syllabus)

Full Marks : 50 Time : Two Hours

Paper Code : X - A

(Marks : 10)

Choose the correct answer.

Each question carries 1 Mark.

1. Which one of the following antibodies initiates an allergic reaction —

   (A) IgG

   (B) IgA

   (C) IgE

   (D) IgM

2. Antigen binds at which of the following site —

   (A) light chain alone

   (B) heavy chain alone

   (C) Fc region of the antibody

   (D) Fab regions of the antibody

3. In Chagas disease Reduviid bugs fuctions as —

   (A) Intermediate host

   (B) Reservoir host

   (C) Accidental host

   (D) Primary host

4. In which association one of the species is always harmed —

   (A) Mutualism

   (B) Commesalism

   (C) Amensalism

   (D) Parasitism

5. *Schistosoma Haematobium* is —

   (A) Bacteria

   (B) Trematode

   (C) Insect

   (D) Hemiptera

6. Vaccination is an example of —

   (A) Artificial immunity

   (B) Natural immunity

   (C) Innate immunity

   (D) Both A & C

7. Which one of the following antibodies has the lowest concentration in plasma?

   (A) IgA

   (B) IgE

   (C) IgM

   (D) IgG

8. Pattern recognition receptors (PRR) include —

   (A) LPS (lipopolysaccharide).

   (B) Unmethylated CpG sequences.

   (C) Lipoteichoic acid.

   (D) Lectin-like molecules.

9. Secondary antibody conjugate is used in —

   (A) Sandwich ELISA

   (B) Direct ELISA

   (C) Indirect ELISA

   (D) Both A & C

10. Identify the infective stage of *Taenia solium* —

(A) Rhabditiform

(B) Microfilaria

(C) Metacercaria

(D) Cysticercus

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Paper Code : X - B

(Marks : 40)

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

Unit - 1 : Microbiology and Immunology

1. Answer any *two* questions : 4×2=8

   (a) Write a short note on bacterial cell wall.

   (b) Differentiate between affinity and avidity.

   (c) Write a short note on Hfr strain.

   (d) Write short note on transmission and control of typhoid.

2. Answer any *one* question : 12×1=12

   (a) With diagram, briefly describe various stages of bacterial growth curve. Differentiate spread plate culture and pour plate culture. Define solid and liquid media. 3+5+4=12

   (b) Draw and label an immunoglobulin. What is Fab and Fc. Briefly describe the steps involved in the production of monoclonal antibodies by hybridoma technology. (2+3)+7=12

   (c) Differentiate between : 4×3=12

      (i) Primary & Secondary Lymphoid organ

      (ii) Epitope & Paratope

      (iii) T_H & T_C Cells

Unit - 2 : Parasitology and Medical Zoology

3. Answer any *two* questions : 4×2=8

   (a) What do you understand by parasitism and hyperparasitism.

   (b) Point out the major clinical symptoms of taeniasis.

   (c) Write short note on “Integrated control methods of mosquito”?

   (d) Explain amensalism and commensalism.

4. Answer any *one* question : 12×1=12

(a) Briefly describe the biology, role in disease transmission and control measures of Reduviid bug.

(b) Briefly discuss the life cycle and pathogenicity of *Echinococcus granulosus*. 6+6=12

(c) Differentiate paratenic host vs intermediate host. Define parasitoidism. Write a short note on host-parasite interaction. Name the causative agent and vector of the yellow fever. 2+2+6+2=12

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