PG (NEW) CBCS
M.Sc. Semester-II Examination, 2019
ZOOLOGY
PAPER: ZOO-203
(MOLECULAR BIOLOGY & PARASITOLOGY)

Full Marks: 40 **Time: 2 Hours**

Use separate Answer-scripts for Group-A & Group-B

GROUP-A

Molecular biology

Marks-20

1. **Answer any two questions of the following:** **2×2=4**
   a) What catalyzes the opening and placement of sliding clamps on the DNA?
   b) What effect will deletion of the trpL region of trp operon have on the rate of synthesis of tryptophan synthetase enzyme?
   c) What do you mean by DNA proof reading?
   d) Why can transcription and translation happen simultaneously for an mRNA in bacteria?

2. **Answer any two questions of the following:** **2×4=8**
   a) Describe briefly the role of palm domain of *E. coli* DNA polymerase.
   b) Briefly print out about 'Mismatch repair'.
   c) Illustrate briefly the initiation mechanism in eukaryotic transcription.
   d) Characterise Ori C in *E coil.*

3. **Answer any one question of the following:** **1×8=8**
   a) i) Describe briefly the interaction of the basal transcription factors in correct sequence in the formation of open complex during eukaryotic transcription machinery.
   ii) State the function of RNA component of human telomerase. 5.5+2.5
   b) What is promotors in eukaryotic? What is the difference between eukaryotic and prokaryotic transcription termination? Give the overview of pre mRNA processing in eukaryotic. 2+3+3=8

(Turn over)

GROUP-B

Parasitology

Marks-20

4. Answer any two questions of the following: 2×2=4

a) What do you mean by endoparasite and ectoparasite?

b) What do you mean by mechanical and biological transmission?

c) What do you mean by Cs protein? Mention its functions.

d) i) What is schistosomule?

ii) Name the cytoskeletal proteins found in trophozoite of Giardia

5. Answer any two questions of the following: 2×4=8

a) 'The vertebrate gut is a suitable habitat for microorganism'- Discuss. 4

b) Enumerate the ultrastructural feature of the trematode tegument. 4

c) Distinguish between amastigote and pathogenecity form of Leishmania. What is PKDL? 3+1

d) Define zoonosis with example. Comment on pathogenicity of lymphatic filariasis. 1+3

6. Answer any one question of the following: 1×8=8

a) Describe briefly the life cycle pathogenecits of Trypanosome. Write the treatment procedure of it. 4+2+2=8

b) i) State briefly the host and environment factors in epidemiology of kala-azar.

ii) Write short notes on VSG gene. 5+3=8

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