

**Zoology (P.G.)**

**[CBCS]**

**M.Sc. Second Semester End Examination-2024**

**(Regular & Supplementary Paper)**

**PAPER-ZOO-203**

**Full Marks: 40**

**Time: 02 Hrs**

*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.*

**(Use separate answer script for each group)**

**Group A**

**Marks 20**

**(Molecular Biology)**

1. Answer any two questions of the following: 2x2= 4
  - a. What is Okazaki fragment?
  - b. What is the role of 'Rho factor' in the transcriptional termination in E.coli?
  - c. What do you mean by "diauxic growth"?
  - d. What is IPTG?
  
2. Answer any two questions of the following: 2x4= 8
  - a. Discuss the mechanism of initiation of translation in prokaryotes.

(2)

- b. Write down the steps of polyadenylation of newly synthesized transcript in eukaryote and mention its significance. 3+1
- c. How does CAP-CAMP recruit polymerase to the promoter of lac operon? Write a short note on "Lac operators". 2+2
- d. Using (+) for production and (-) for non production of enzymes, complete the following table :-

	<u>Genotype</u>		<u>No Lactose</u>		<u>Lactose</u>	
			(Z)	(Y)	(Z)	(Y)
i)	$I^S P^+ O^C Z^+ Y^+$	$I^S P^+ O^C Z^+ Y^+$				
ii)	$I^{-d} P^+ O^+ Z^+ Y^+$	$I^+ P^+ O^+ Z^- Y^+$				2+2

3. Answer any one question of the following: 1x8=8
- a. Describe the process of mi RNA processing and mi RNA – mediated posttranscriptional gene silencing. 8
- b. Write briefly about the attenuator control of Tryptophan operon with proper diagram. 8

**Group B**  
**Marks 20**  
**(Parasitology)**

4. Answer any two questions of the following: 2x2= 4
- a. Write any two important differences between ticks and mites. 2

(3)

- b. What is elephantiasis? Write its causative agent. 1+1
- c. What is signet ring? Where it is found? 1+1
- d. Distinguish between Commensalism and Mutualism. Give example.

5. Answer any two questions of the following: 2x4= 8

- a. State cellular and physiological basis of host parasitic interaction. 4
- b. Write a short note on Kala-azar. 4
- c. Name any two ecto and endo parasites of human. What is parasitism? 2+2
- d. Write the causative agent of cerebral malaria. Mention the pathogenicity it shows. 1+3

6. Answer any one question of the following: 1x8=8

- a. Briefly describe the following (any two)
- i) Zoonosis
  - ii) Phoresis and inquilinism
  - iii) Facultative and obligatory parasites
  - iv) Properties and parasitic adaptation. 4+4
- b. i) Give a brief account of a life cycle of Schistosoma sp.
- ii) Mention the pathogenicity, diagnosis and treatment of Schistosomiasis.
- iii) What are the definitive and intermediate host in the above case. 4+3+1