



Acc No. QTS55

MCC/18/M.Sc./Sem.-II/ZOO/1

**Second Semester Examination-2018**

**M.Sc. ZOOLOGY**

Paper Code: ZOO-202

Full Marks : 40

Time: 2 Hours

The figures in the margin indicate full marks.

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

Illustrate the answers whenever necessary.

**Use separate Answer Scripts for Group-A & Group-B**

**Group A**

**(Biochemistry)**

- 1. Answer any two questions from the followings. 2×2=4**
- a) Why hydrogen bond is the strongest bond than any other bond in biological system?
  - b) How does environment affect the secondary tertiary and quaternary structure of an amino acid sequence?
  - c) How synthesis of  $T_3$  and  $T_4$  is regulated by pituitary?
  - d) What is reaction related to transamination? How does it help in metabolism?
- 2. Answer two questions from the following. 2×4 =8**
- a) Differentiate ammonotelism, ureotelism and uricotelism. 4
  - b) What is Ramacandram plot? Why do  $\alpha$ -helix and  $\beta$  sheets appear different sections of plot? 2+2
  - c) What are catecholamines? 1+3  
Briefly describe the biosynthetic pathways of it.
  - d) Explain competitive and noncompetitive enzymatic inhibition 3+1  
with proper graphical representation. What is the influence on their  $K_m$  &  $V_{max}$  value?
- 3. Answer one question from the following. 8×1=8**
- a) What is  $K_m$ ? How can we derive the value of it from Michaelis-Menton equation? Write the roll of  $P^H$  and temperature on the activity of enzyme. What do you mean by allosteric modulation? 1+2+4+1=8



- b) Write with a suitable flow diagram the palmitate oxidation pathway with a calculation on ATP production. What is the importance of pentose phosphate pathway?

6+2 =8

**Group-B**  
**(Parasitology)**

4. Answer two questions from the following. 2× 2=4
- a) What is the difference between facultative and obligatory parasite?
  - b) How Kalazar is diagnosed?
  - c) Differentiate commensalism from mutualism.
  - d) What do you mean by vector? Name the vector of Chikungunya.
5. Answer two questions from the following. 4×2=8
- a) What kind of structural modifications are found in the intestinal parasite.
  - b) Write the causative organism of filariasis. How they are transmitted?  
What are the elimination strategies of this disease? 1+1+2
  - c) What is giardiasis? Write down the symptoms and treatment of giardiasis. 1+2+1
  - d) Write the common name of paragonimus. Comment of the Pathogenicity it shows. 1+3
6. Answer one question from the following.
- a) Enumerate briefly the host and environmental factors in epidemiology of Kala-azar. Write about the medical importance of mosquito vector. 5+3
  - b) What is the causative organism and vector of *Trypanosoma*? Why it is called African sleeping sickness? Schematically describe the life cycle of the *Trypanosoma*. Mention the prevention method of this diseases. 1+1+4+2

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