

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. SECOND SEMESTER EXAMINATION, MAY 2017

FIRST YEAR [BATCH 2016-19]

ZOOLOGY (General)

Date : 22/05/2017

Time : 11 am – 1 pm

Paper: II

Full Marks : 50

[Use a separate Answer Book for each group]

Group – A

1. Answer **any five** questions: [5 X 2]
 - i) State two functions of air sacs of pigeon. 2
 - ii) What is clasper? Site an example of hagfish. 1+1
 - iii) Write two major characteristic features of the order Apoda. 2
 - iv) What do you mean by venous heart? Site an example. 2
 - v) What are the identifying characters of infraclass Eutheria? 2
 - vi) Define ruminant stomach. Where is it found? 1+1
 - vii) Mention the role of swim-bladder in fishes. 2
 - viii) What is wheel organ? Where it is found? 2
2. Answer **any two** questions: [2×2½]
 - a) Distinguish between Ratitae and Carinatae with examples. 2½
 - b) Compare and contrast the functioning of the frog's heart with that of a mammal. 2½
 - c) Mention three important characters of class Reptilia. What is diapsid skull? 1½+1
 - d) State the characteristic features of placoid scale with a suitable diagram. Site an example. 2+½
 - e) Name Vth & Xth cranial nerves. What are their functions? 1+1½
3. Answer **any two** questions: [2×5]
 - a) What is double respiration? Name the air sacs present in pigeon. 2+3
 - b) What is meninges? Mention the role of CSF. Distinguish between sympathetic and parasympathetic nervous systems. 1+2+2
 - c) Illustrate the structural details of a typical flight feather with a neat diagram. 4+1
 - d) How a mesonephric and a metanephric kidney can be distinguished? "A double circuit heart is more effective in circulating blood than that of a single circuit one" – justify. 1½+3½
 - e) Write brief notes on (**any two**): [2×2½]
 - i) Endostyle
 - ii) Down feather
 - iii) Pterylosis
 - iv) Gizzard of *Columba*

Group – B

4. Answer **any five** questions: [5×2]
 - i) What is the difference between spermatogenesis and spermiogenesis? 2
 - ii) What is corpus luteum? State its function. 1+1
 - iii) What do you mean by internal and external fertilizations? 2
 - iv) What are the major differences between protostomia and deuterostomia? 2
 - v) Mention the importance of cortical granule. 2

- vi) What is morula? 2
- vii) State the importance of grey crescent. 2
- viii) Define choriovitelline placenta. 2

5. Answer **any two** questions: [2×2½]
- a) Write the differences between complete and incomplete cleavages. 2½
 - b) What is chorion? Mention its role. 1+1½
 - c) Mention the role of dorsal lip of blastopore in frog gastrulation. 2½
 - d) Distinguish between Endothelial chorial placenta and Haemochorial placenta with suitable examples. 2½
 - e) State the significance of fertilization. 2½
6. Answer **any two** questions: [2×5]
- a) Define spermatidogenesis. Describe its steps with a proper flow chart. 2+3
 - b) What is cleavage? Classify cleavage based on the plane of division. 2+4
 - c) What is an organizer? Describe the organizer experiment with observation and result. 1+4
 - d) Write the developmental processes and functions of amnion and yolk sac in a chick embryo. 2½+2½
 - e) What is placenta? What is discoidal placenta? Give an example. Mention the functions of placenta. 1+1+1+2

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