RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. THIRD SEMESTER EXAMINATION, DECEMBER 2018

SECOND YEAR [BATCH 2017-20]

Date : 20/12/2018 **ZOOLOGY [General]**

Time : 11 am – 1 pm **Paper : III** Full Marks : 50

[Use a separate Answer Book <u>for each Group</u>]

Group – A

1. Answer **<u>any five</u>** questions : [5×2]

   a) What is juvenile hormone?
   b) What is erythroblastosis foetails?
   c) What are eicosanoids?
   d) What are plasmalogens?
   e) Define Haematopoesis.
   f) Compare between competitive and non-competitive inhibition of enzymes.
   g) Define Osmoconformation with example.
   h) State the role of Ca^{+2} in synaptic transmission.

2. Answer **<u>any two</u>** questions : [2×2·5]

   a) "Unlike action potential, the end plate potential (EPP) does not have a threshold"-Justify.
   b) Explain the "Balance Concept" in respect to fluid homeostasis.
   c) Name the hormones secreted from anterior pituitary.
   d) Describe the ultrastructure of a typical Corticotroph cell.
   e) Write the role of 'Chloride cells' in osmoregulation of fish.

3. Answer **<u>any two</u>** questions : [2×5]

   a) Deduce the Michaelis-Mention equation of hypothetical enzyme (E), which reversibly convert a substrate(S) into product(P).
   b) Give the structure & function of hormones secreted from thyroid gland. [2+3]
   c) Mention the distribution of important ions in ICF and ECF during resting state. Explain the role of voltage gated sodium and potassium channels in generating an action potential. [1+2+2]
   d) Name different factors present in blood that are crucial for blood coagulation. Briefly tabulate the process of blood coagulation. [2+3]
   e) Define nucleoprotein. Describe the ultrastructure of an acinar cell. Enumerate the functions of ecdysone. [1+2+2]

Group – B

4. Answer **<u>any five</u>** questions : [5×2]

   a) What are the limitations of an age specific life table?
   b) Define edge effect with suitable example.
   c) What are primary and secondary successions?
   d) What is eutrophication?
   e) What is niche partitioning?
   f) What are point & non-point source of pollution. Cite suitable example.
   g) What is protocooperation?
   h) Differentiate between BOD and COD.

5. Answer **any two** questions : [2×2·5]

a) Define secondary productivity. State two special features of 'Y-shaped Model of energy flow'. [1+1.5]

b) Name & give the mathematical equation of any two populations growth model that you have studied.

c) What is the relation between α,β and γ diversity?

d) What is EIA?

e) Name any four National Parks of West Bengal.

6. Answer **any two** questions : [2×5]

a) What are source & sink populations? State the major drawbacks of a 'Pyramid of Number'. Define photoperiodism with an example. [2+2+1]

b) What are major & minor communities? Give example. Write the salient features of a biotic community. [2+1+2]

c) Define biodiversity hotspots. Briefly describe the hotspots present in India. [1+4]

d) What do you mean by change in community in temporal scale. Cite suitable example to explain. [1+4]

e) Enumerate how age structure affects the growth of a population. What is food web? [4+1]

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