

Time : Three hours

Maximum : 100 marks

Answer ALL questions

All questions carry equal marks.

1. (a) Write an essay on enzymes and their role in digestion of proteins.
Or
(b) Write short notes on :
 - (i) Fat-soluble vitamins
 - (ii) Glycolysis.

2. (a) What is cardiac cycle? Explain in detail the structure and functioning of human heart.
Or
(b) Write short notes on :
 - (i) Diffusion of gases
 - (ii) Bohr's effect.

3. (a) Give a detailed account on photoreceptors in different animal groups. Discuss the role of rods and cones in human eye.
Or
(b) Write short notes on :
 - (i) Hibernation
 - (ii) Nerve impulse transmission.

4. (a) Explain the mechanism of osmoregulation in aquatic animals.
Or
(b) Write short notes on :
 - (i) Ultra-filtration in kidney
 - (ii) Excretory patterns in animals.

5. (a) Discuss the role of hormones as vehicles of intercellular communication.
Or
(b) Write short notes on :
 - (i) Muscle contraction
 - (ii) Sex hormones.

M.Sc. (Final) DEGREE EXAMINATION,
DECEMBER 2007.

Second Year

Zoology

Paper VI — AQUACULTURE

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

All questions carry equal marks.

1. (a) Give a detailed account breeding of carps.
Or
(b) Write notes on :
 - (i) Cultivated species
 - (ii) Procurement of carp seed from natural habitats.

2. (a) Describe the design and construction of a pond farm.
Or
(b) Write notes on :
 - (i) Rearing pond
 - (ii) Common carp.

3. (a) Write an essay on culture of air breathing fishes.
Or
(b) Write notes on :
 - (i) Milk fish
 - (ii) Tiger shrimp.

4. (a) Give a detailed account on culture of edible oysters.
Or
(b) Write notes on :
 - (i) Pearl Oyster
 - (ii) Sea weeds.

5. (a) What are the common diseases in culture ponds? Explain in detail.
Or
(b) Write notes on :
 - (i) Gynogenesis
 - (ii) Hybridization of fish.

Paper VII — PARASITOLOGY AND IMMUNOLOGY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. (a) Give a detailed account on structure and life cycle of Entamoeba histolytica.
Or
(b) Write short notes on :
 - (i) Parasitism.
 - (ii) Giardiasis.

2. (a) Write an essay on structure and life cycle of Diphyllobothrium latum.
Or
(b) Write notes on :
 - (i) Opisthorchis sinensis.
 - (ii) Echinococcus granulosus.

3. (a) Describe the morphology and life cycle of Wuchereria bancrofti.
Or
(b) Write short notes on :
 - (i) Trichuris trichiura.
 - (ii) Ancylostoma duodenale.

4. (a) Describe the structure and major class of antigens.
Or
(b) Write notes on :
 - (i) Acquired immunity.
 - (ii) Natural immunity.

5. (a) Write an essay on Antibodies structure and their properties.
Or
(b) Write notes on :
 - (i) Coombs' test.
 - (ii) Antigen.

M.Sc. (Final) DEGREE EXAMINATION,

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Zoology

Paper VIII — BIOTECHNOLOGY

Time : Three hours

Maximum : 100 marks

Answer ALL the questions.

All questions carry equal marks.

1. (a) Define biotechnology. Discuss the different fields of biotechnology.
Or
(b) Give a details account on applications of biotechnology.
2. (a) Describe the enzymes useful in gene cloning.
Or
(b) Explain the tools and techniques of recombinant DNA technology.
3. (a) Write an essay on the maintenance of plant cell cultures.
Or
(b) Write short notes on :
 - (i) Call us culture
 - (ii) Single cell culture.
4. (a) Explain the growth of animal cell lines in laboratory.
Or
(b) Discuss the various techniques for animal tissue culture.
5. (a) Describe the methods of vaccine production.
Or
(b) Give an account on the production of enzymes and other chemicals useful for industries.