

This question paper contains 7 printed pages]

Roll No.

--	--	--	--	--	--	--	--	--	--	--

S. No. of Question Paper : 1003

Unique Paper Code : 223605

E

Name of the Paper : Applied Zoology (ZOHT-612)

Name of the Course : B.Sc. (H) Zoology

Semester : VI

Duration : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Answer any two Sections. Do three questions from each Section

including Question No. 1 which is compulsory.

Use separate answer sheet for each Section.

Section A

1. (a) Differentiate between the following pairs of the terms :

4½

- (i) Lymphangitis and lymphadenitis
- (ii) Incubation period and Pre-patent period
- (iii) Dengue fever and Dengue haemorrhagic fever.

(b) Name a human parasite which possesses the following structure :

3

- (i) Gynaecophoric canal
- (ii) Copulatory Bursa
- (iii) Acetabulum.

P.T.O.

- (c) Name the infective stage of the following pathogens : 3
- (i) *Plasmodium vivax*
 - (ii) *Ancylostoma duodenale*
 - (iii) *Schistosoma haematobium*.
- (d) Name the pathogen of the following diseases : 3
- (i) Dengue shock syndrome
 - (ii) Black-water fever
 - (iii) Syphilis.
2. Describe the mode of transmission, clinical symptoms, epidemiology and control of tuberculosis. 12
3. Discuss in detail the life-cycle, pathogenicity and prophylaxis of *Wuchereria bancrofti*. 12
4. (a) Write histopathological notes on alcoholic cirrhosis or haemochromatosis. 6
- (b) Give a brief account of diseases caused by *Rickettsia*. 6
5. Write short notes on any *three* of the following : 4,4,4
- (a) *Leptospira*
 - (b) Intestinal amoebiasis
 - (c) Control and prevention of malaria
 - (d) Swine flu.

Section B

1. (a) Define the following terms :

4

- (i) PGD
- (ii) Infertility
- (iii) Labour
- (iv) Pearl index.

(b) Distinguish between the following :

4

- (i) Slow programmable freezing and vitrification
- (ii) COCs and POPs.

(c) State whether the following statements are True *or* False :

2

- (i) Women contribute more than three fourths to subfertility problems whereas men contribute one-fourth.
- (ii) Some steroidal contraceptives combine synthetic oestrogens and progestagens and may be administered through the oral, intranasal or transdermal routes.
- (iii) Approximately 10-15% of couples experience clinical subfertility.
- (iv) A major source of relaxin is the corpus luteum.

(d) Expand the following abbreviations : 2

(i) DCR

(ii) LNG

(iii) PID

(iv) HRT

(e) Match the names of the scientists with their work : 1½

(i) Ernst Gräfenberg

(a) Pioneered IVF

(ii) Carl Djerassi

(b) Discovered cryoprotective properties of glycerol

(iii) Patrick Steptoe

(c) Contributed towards the development of the "pill"

(d) Created the first ring IUD

2. Which are the various hormones implicated in parturition ? Describe their interrelationships in the initiation and completion of the process. 12

3. (a) Discuss the role of mammogenic and lactogenic hormones in the growth of the breast and the initiation of milk production by the alveolar cells. 6

(b) What are the causes of female infertility ? 6

4. (a) What are the preimplantational methods of sex selection ? 4
- (b) Describe the process of IVF-ET that led to the birth of Louise Brown. 8
5. Write short notes on any *three* of the following : 4,4,4
- (a) Cryopreservation
- (b) Synchronization of estrus in cattle
- (c) Modern IUDs
- (d) ICSI.

Section C

1. (a) Differentiate between the following pairs of terms : 4
- (i) Parasite and Parasitoid
- (ii) Stomach poison and Contact poison.
- (b) Define the following terms : 4
- (i) LD₅₀
- (ii) Economic injury level
- (iii) Antibiosis
- (iv) Systemic insecticide.

- (c) Expand the following terms : 1½
- (i) BHC
 - (ii) SIRM
 - (iii) IARI.
- (d) State the whether the following statements are True or False : 4
- (i) Propolis is obtained from bees.
 - (ii) Permethrin is an organophosphorus insecticide.
 - (iii) Khapra beetle is generally a surface feeder and is unable to breed below a certain depth from grain surface.
 - (iv) *Pectinophora gossypiella* is a serious pest of cotton.
2. (a) Give the scientific names of gram pod borer and pulse beetle. Write about the damage caused by them. 5
- (b) Describe the life history and suggest suitable control measures for any one of the above mentioned pests. 7
3. (a) Discuss the role of moisture and temperature in safe storage of food grains. 6
- (b) Explain the term biological control with the help of a suitable example. Discuss its merits and demerits over chemical control of pests. 6
4. Describe the various tools and methodology involved in the rearing of *Bombyx mori*. Add a note on the disease of sericulture. 12

5. Write short notes on any *three* of the following :

4,4,4

- (a) Cultural control of insects
- (b) IPM
- (c) Legislative method of insect control
- (d) Organophosphorus insecticides
- (e) Genetic methods of pest management.