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UG/5th Sem/Zoo(H)/T/19

2019

B.Sc. (Honours)

5th Semester Examination

ZOOLOGY

Paper - DSE-1T



Full Marks : 40

Time : 2 Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

[Reproductive Biology]

1. Answer any *five* questions from the following :

5×2=10

- (a) What do you mean by cryptorchidism ?
- (b) What is menopause ? Write two clinical features of menopause.
- (c) Define parturition. Write the hormones involved in it.
- (d) What is colostrum ? Mention its function.

[Turn Over]

(2)

- (e) What is Cowper's gland ? Mention its function.
- (f) Write the secondary sex organs of female and male.
- (g) Why does the menstrual blood not coagulate ?
- (h) What is cryobank ?

2. Answer any *four* questions : $4 \times 5 = 20$

- (a) Write briefly the hormonal regulation of menstrual cycle.
- (b) Write short note on in-vitro fertilization and frozen embryo.
- (c) Mention the names of the hormones of placenta and write their functions.
- (d) Write the role of Leydig cell & Sertoli cell in spermatogenesis.
- (e) Write the modern contraceptive device in female.
- (f) Mention briefly the hormonal regulation of Parturation.

(3)

3. Answer any *one* question : $1 \times 10 = 10$

- (a) Distinguish between spermatogenesis and oogenesis. Write the mechanism of steroid hormones action. What is corpus haemorrhagicum ? $3+5+2$
- (b) Write any test for pregnancy. Describe briefly the histological structure of Testis. Name the hormones of the ovary & mention its specific function. $2+5+3$

[Animal Behaviour & Chronobiology]

1. Answer any *five* questions from the following : $5 \times 2 = 10$

- (a) Distinguish between Instinct and Learned behaviour.
- (b) Distinguish between Endogenous and Exogenous pathway of Bio-rhythm.
- (c) Distinguish between Extinction and Habituation.

[Turn Over]

(4)

- (d) What is zeitgebers ?
- (e) What is circadian and circannual rhythms ?
- (f) Write down the advantages of the Waggle dance.
- (g) What is Ethogram ?
- (h) What is signal and weta communication ?

2. Answer any *four* from the following : $4 \times 5 = 20$

- (a) What is imprinting ? Discuss the significance of imprinting. $3+2$
- (b) Write down kin selection and Hamilton's rules on the evolution of altruism.
- (c) Write down the role of photoperiod in regulation of seasonal reproduction of vertebrate.
- (d) Write a short note on classical and operant conditioning. $2\frac{1}{2}+2\frac{1}{2}$
- (e) Explain the Role of Serotonin and Melatonin in regulating the biological clock of humans.

(5)

3. Answer any *one* from the following. 10

- (a) Discuss 'female choice' in sexual selection with the help of suitable example. Explain sexual dimorphism with reference to sexual selection. $7+3$

- (b) What is biological rhythm ? Explain different types of biological rhythm. Discuss biological clock with reference to endogenous pacemaker. $2+3+5$

[Turn Over]

(6)

[Fish and Fisheries]

1. Answer any *five* questions from the following :

5×2=10

- (a) State the distinct characteristics of Dipnoan fishes.
- (b) Define homocercal tail with example.
- (c) Distinguish between osmoregulator and osmoconformer.
- (d) What is indigenous fishing craft ?
- (e) Define aquaculture.
- (f) State the advantages of pen culture.
- (g) Compare among extensive and intensive aquaculture.
- (h) What is homogenous and heterogenous nucleation ?

2. Answer any *four* from the following :

4×5=20

- (a) Briefly describe the feeding habit of carnivorous fishes.

(7)

(b) Write characteristics of following order with examples. 2×2½

(i) Siluriformes

(ii) Cypriniformes

(c) Explain osmoregulatory mechanism of any one anadromous fishes.

(d) Give an account on the bioluminescence of fishes.

(e) Write a brief note on the application of RS & GIS on fisheries resource exploitation.

(f) Briefly describe different indigenous fishing gears used in coastal West Bengal.

3. Answer any *one* from the following : 1×10=10

(a) (i) What is cage culture ?

(ii) Briefly describe composite fish culture with example.

(iii) Add a note on maintenance of home aquarium. 2+5+3

[Turn Over]

(b) Short note :

4×2½

- (i) Treatment of bacterial diseases
- (ii) Fish meal
- (iii) Brood stock management
- (iv) Transgenic fish.