3 (Sem–6/CBCS) ZOO HE 3/4

2024

ZOOLOGY

(Honours Elective)

Answer the Questions from any one Option.

OPTION–C

(Reproductive Biology)

Paper : ZOO–HE–6036

OPTION–D

(Wildlife Conservation and Management)

Paper : ZOO–HE–6046

Full Marks : 60

Time : Three hours

The figures in the margin indicate full marks for the questions.

OPTION-C

(Reproductive Biology)

Paper : ZOO-HE-6036

1. Answer the following as directed : 1×7=7

   (a) _____ is a procedure in which a small amount of amniotic fluid is removed through a needle from the fetal sac at about 16 weeks into a pregnancy. *(Fill in the blank)*

   (b) _____ is a hormone produced by the placenta; its detection is the basis for most pregnancy tests. *(Fill in the blank)*

   (c) Androgen biosynthesis occurs specifically within the _____ that populate the interstitial tissue of the testis. *(Fill in the blank)*

   (d) Caput, corpus, and cauda are parts of the epididymis. *(State True or False)*

   (e) Programmed cell death mechanism is called

   (i) apoptosis

   (ii) cancer

   (iii) autophagy

   (iv) apposition

   (Choose the correct option)

   (f) Gonadotropin-releasing hormone (GnRH) prompts the pituitary gland to release

   (i) FSH and LH into the bloodstream

   (ii) testosterone into the bloodstream

   (iii) estrogen and progesterone into the bloodstream

   (iv) ACTH into the bloodstream

   (Choose the correct one)

   (g) The Wolffian duct develops into the male reproductive tract. *(State True or False)*

2. Answer the following questions very briefly : 2×4=8

   (a) What is insemination ?

   (b) Write the composition of seminal fluid.

   (c) State the functions of the corpus luteum.

   (d) Define demography.

3. Answer the following questions : ***(any three)*** 5×3=15

   (a) What is parturition ? What are the stages of parturition ?

   (b) State various temporary or spacing methods of contraception.

(c) Enumerate on the role of the epididymis in sperm maturation.

(d) What is infertility? State the primary causes of infertility.

(e) What is estrous cycle? What are the stages of the estrous cycle in rats?

4. Answer ***any three*** of the following : 10×3=30

(a) Describe the structural changes that occur in the uterus over the course of the menstrual cycle and pregnancy.

(b) Describe in detail with a proper diagram how sperm transportation occurs in the male reproductive tract.

(c) Explain the role of hormones during pregnancy.

(d) What is implantation? When does implantation occur? State the phases of implantation with proper diagram. 2+2+6=10

(e) Write a note on various assisted reproductive technologies that are used.

(f) Describe the process of development and differentiation of male gonads.

OPTION-D

(Wildlife Conservation and Management)

Paper : ZOO-HE-6046

1. Answer the following : 1×7=7

(a) When was the World Conservation Strategy launched?

(b) Define 'population density'.

(c) Give *two* negative values of wildlife.

(d) Name *one* common fungal disease of wild birds.

(e) What is the full form of GIS?

(f) What is 'carrying capacity' of a habitat?

(g) When was the National Tiger Conservation Authority (NTCA) constituted?

2. Answer very shortly : 2×4=8

(a) What is the role of periodic fire treatment in a forest?

(b) How can the diet of a wild carnivore be experimentally determined?

(c) How does ecological perturbation affect succession ?

(d) What is a 'national park' ?

3. Answer in short : ***(any three)*** 5×3=15

(a) Briefly enumerate and explain the causes of wildlife depletion.

(b) Based on tricho taxonomy, what characteristics of wild mammals can be ascertained ? Explain with suitable examples. 3+2=5

(c) Explain how remote sensing can be used to monitor wildlife.

(d) "Biological parameters can determine habitat analysis of wild animals." Explain.

(e) Write short notes on : ***(any two)*** 2½×2=5

(i) Ex-situ conservation

(ii) Pioneer community

(iii) Stratified sampling

(iv) Wildlife corridor

4. Answer elaborately : 10×3=30

(a) Determine how physical parameters of any national park can evaluate the habitat of wild animals specific to that area.

Or

Give technical and logical ideas of developing ecotourism in any national park of Assam.

(b) Give an account of biotelemetry in wildlife with special reference to VHF, GPS and satellite tracking. 2+4+2+2=10

Or

Elaborate on the management challenges of tiger reserves of India.

(c) What is the significance of pugmarks in census of tigers ? How can you differentiate between a male and a female tiger pugmark? What are the differences between an adult tiger and a juvenile tiger pugmark. Support your answer with diagrams. 2+4+4=10

Or

Elaborate on the modern methods of care of injured and diseased wild animals.
