

Roll No.

E-326

M. Sc. (First Semester)
EXAMINATION, Dec.-Jan., 2020-21

ZOOLOGY

Paper Fourth

**(Gamete Biology and Reproduction
Physiology in Human Beings)**

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt all Sections as directed.

Section—A

1 each

(Objective/Multiple Choice Questions)

Note : Attempt all questions.

Fill in the blanks :

1. Which hormones is secreted by placenta ?
2. The post-fertilization change involves
3. hormone crucial role in the parturition.
4. Acrosome formed by

P. T. O.

5. Primary oocyte contain and secondary oocyte contain number of chromosome.
6. The milk that come out of the mammary glands during initial days of lactation is called
7. The tissue which lines the inner surface of fallopian tube.
8. The follicle cell that envelope the egg outside zona pellucida are called
9. Androgen secreted from
10. hormone are responsible for external genitalia formation of male.

Choose the correct answer :

11. Which of the following layers in an antral follicle is a cellular ?
 - (a) Stomal
 - (b) Zona pellucida
 - (c) Granulosa
 - (d) Theca interna
12. The hormones that are produced in women only during pregnancy are :
 - (a) Estrogen, hCG, human placental lactogen
 - (b) Estrogen, progesterone, oxytocin
 - (c) Human placental lactogen, hCG, relaxin
 - (d) Human placental lactogen, hCG, thyroxin

13. The placenta of human beings belongs to the category of :

- (a) Haemochoriolis
- (b) Syndesmochoriolis
- (c) Endotheliochoriolis
- (d) Epitheliochoriolis

14. Function of hyaluronidase is to :

- (a) Dissolve corona radiata
- (b) Act on ground substance of follicle cells
- (c) Digest zona pellucida
- (d) Increase ratio of protein synthesis and respiration

15. A Graafian Follicle is :

- (a) An immature developing follicle
- (b) An mature follicle ready to ovulate
- (c) A follicle undergoing apoptosis
- (d) Ovulated follicle

16. Human chorionic gonadotropin (hCG) :

- (a) begins to produced 4 months after fertilization
- (b) is produced by the prostate gland
- (c) is produced by the corpus luteum
- (d) is present only if an successful fertilization has occurred.

17. Identify the extra embryonic membrane in human, where early blood cells formulation take place :
- (a) Yolk sac
 - (b) Amnion
 - (c) Chorion
 - (d) Allantois
18. Which of the following consists of haploid number of chromosome ?
- (a) Spermatogonium
 - (b) Primary spermatocyte
 - (c) Secondary spermatocyte
 - (d) Sertoli cell
19. Prolactin hormones inhibited by :
- (a) Dopamine
 - (b) Dopa
 - (c) ACTH
 - (d) TSH
20. Which enzyme required for cholesterol convert to pregnenolone ?
- (a) Dihydrolase
 - (b) Desmolase
 - (c) Aromatase
 - (d) 5α -reductase

Section—B

1 $\frac{1}{2}$ each

(Very Short Answer Type Questions)

Note : Attempt all questions.

1. What is the role of DHT (Dihydrotestosterone) ?
2. What is the role of inhibin hormone ?
3. Give the name of enzyme which convert testosterone to estrogen.
4. Give the name of cell secretion of inhibin hormone.
5. What is the role of AMH (Antimullarian hormone) ?
6. What is the zona pellucida and their role ?
7. Give the name of Extra Embryonic Membrane (EEM) formation of placenta is human.
8. Which phase and subphase of meiosis I and arrested of oogenesis ?
9. Role of 5α -reductase enzyme in male.
10. What is the role of C-moss phosphoprotein in meiosis I completion of oogenesis ?

Section—C

2 $\frac{1}{2}$ each

(Short Answer Type Questions)

Note : Attempt all questions.

1. Explain the slow block polyspermy cortical reaction.
2. Describe the role of estrogen in male for sex determination.

P. T. O.

3. Write a short note on secondary sex characteristics of male.
4. Explain the hormonal contraception.
5. Describe the chromosomal (genetics) basis of sex determination.
6. Write a short note on progesterone and relaxin hormones.
7. Describe the estrous cycle.
8. Give the only name of external and internal genitalia of male and female.
9. Explain the spermeiogenesis.
10. Write a short note on endocrine control of testicular function.

Section—D

4 each

(Long Answer Type Questions)

Note : Attempt all questions.

1. Write the total account of parturition.

Or

Write an essay on Lactation.

2. Describe the process of pre-fertilization and post-fertilization.

Or

Explain the estrogen biosynthesis.

3. Write an essay on formation and development of placenta.

Or

Describe the Oogenesis.

4. Write the total account on immune contraception.

Or

Describe the formulation and function of male reproductive system.

5. Describe the brain sex differentiation with experiment.

Or

Write the total account of collection and cryopreservation of gametes and embryo.