



'समानो मन्त्रः समितिः समानी'

UNIVERSITY OF NORTH BENGAL
B.Sc. Honours 5th Semester Examination, 2022

DSE-P1-ZOOLOGY

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

**The question paper contains GROUP-A and GROUP-B
The candidates are required to answer any *one* from *two* groups.
Candidates should mention it clearly on the Answer Book.**

GROUP-A

REPRODUCTIVE BIOLOGY

1. Answer any **five** questions from the following: 1×5 = 5
- (a) Which gland secretes GnRH?
 - (b) Mammary glands are modified apocrine _____ glands. (Fill in the blank)
 - (c) In male sexual organ formation hCG acts as a promoter. (True / False)
 - (d) The lytic enzymes released by sperm is —
 - (i) Acrosome
 - (ii) Androgamone
 - (iii) Ligase
 - (iv) Hyaluronidase
 - (e) What is IUI?
 - (f) Name one cryoprotectant that is used in cryobiology.
 - (g) Which hormone is known as birth hormone as well as milk ejecting hormone?
 - (h) What are cortical granules?
2. Answer any **three** questions from the following: 5×3 = 15
- (a) Characterize the luteal phase of menstrual cycle.
 - (b) What is fast-block polyspermy and how it works in mammal?
 - (c) Write in brief the mechanism of action steroid hormones.
 - (d) Write short notes on Graafian follicle and Corpus luteum. 3+2
 - (e) Describe any two modern contraceptive techniques used by women. 2½+2½
3. Answer any **two** questions from the following: 10×2 = 20
- (a) Describe in detail the hypothalamo-hypophyseal-gonadal axis. Comment on regulation of gonadotrophin secretion in male. 7+3
 - (b) Discuss on hormonal control of implantation. Add a note on lactation and its regulation. 5+5

- (c) What is IVF? Comment on the basic principle of IVF. Add a note on ICSI. 2+4+4
- (d) With suitable diagram elucidate the histoarchitecture of testis. Add a note on androgen synthesis. 7+3

GROUP-B
ENDOCRINOLOGY

1. Answer any **five** questions from the following: 1×5 = 5
- (a) Name one neurosecretory hormone.
- (b) Which of the following hormones is not synthesized from tyrosine —
- (i) Epinephrine (ii) Norepinephrine
- (iii) Thyroxine (iv) Insulin
- (c) State function of Somatostatin.
- (d) Increased thyroid hormone decreases the concentration of cholesterol. (True/False)
- (e) Write full form of ABP and which cell secretes it.
- (f) What is the cause of diabetes insipidus?
- (g) Mention the source and function of CRH.
- (h) What is zona pellucida?
2. Answer any **three** questions from the following: 5×3 = 15
- (a) Point out the characteristics of hormone. Add a note on transport of hormones. $2\frac{1}{2}+2\frac{1}{2}$
- (b) Write short notes on Acromegaly and Cushing's syndrome. 3+2
- (c) What are the primary target organs of ADH action? Discuss in brief the multifaceted role of ADH. 1+4
- (d) What do you mean by negative-feedback mechanism? Explain with a suitable example. 1+4
- (e) Briefly describe the structure and functions of Sertoli cells. 3+2
3. Answer any **two** questions from the following: 10×2 = 20
- (a) Describe the histological structure of Islets of Langerhans. Discuss on roles of pancreatic hormones. Add a note on gestational diabetes. 3+5+2
- (b) Elucidate the structure of pineal gland. Discuss on secretions of pineal gland with special emphasis to role of melatonin in circadian rhythm. 3+3+4
- (c) Write down the principle of ELISA. Explain three different types of ELISA. 2+8
- (d) Mention the factors that initiate parturition. Elucidate the hormonal control of parturition. 2+8

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