

Write the following information in the first page of Answer Script before starting answer

**ODD SEMESTER EXAMINATION: 2020-21**

Exam ID Number \_\_\_\_\_

Course \_\_\_\_\_ Semester \_\_\_\_\_

Paper Code \_\_\_\_\_ Paper Title \_\_\_\_\_

Type of Exam: \_\_\_\_\_ (Regular/Back/Improvement)

**Important Instruction for students:**

1. Student should write objective and descriptive answer on plain white paper.
2. Give page number in each page starting from 1<sup>st</sup> page.
3. After completion of examination, Scan all pages, convert into a single PDF, rename the file with Class Roll No. (2019MBA15) and upload to the Google classroom as attachment.
4. Exam timing from 10am – 1pm (for morning shift).
5. Question Paper will be uploaded before 10 mins from the schedule time.
6. Additional 20 mins time will be given for scanning and uploading the single PDF file.
7. Student will be marked as ABSENT if failed to upload the PDF answer script due to any reason.

**B.Sc. ZOOLOGY**  
**THIRD SEMESTER**  
**PHYSIOLOGY: CONTROLLING & COORDINATING SYSTEM**  
**BSZ - 302**

Duration : 3 hrs.

FullMarks : 70

( PART-A: Objective )

Time : 20 min.

Marks : 20

*Choose the correct answer from the following:*

*1×20=20*

1. Which of the following hormones stimulates the renal absorption of sodium, hydrogen ammonium and magnesium.
  - a Insulin
  - b Prostaglandin
  - c. Aldosterone
  - d Oxytocin
2. Both epinephrine and nor epinephrine are stored in the cytoplasmic granules of
  - a. F- cells
  - b. Chief cells
  - c. Chromaffin cells
  - d.  $\delta$ - cells
3. Sperms are produced by the -----of the testes.
  - a Sertoli cells
  - b Interstitial cells.
  - c. Leydig cells
  - d. Seminiferous tubules
4. The hormone which prepares the uterine endometrium for implantation is
  - a. Follicle Stimulating Hormone.
  - b. Progesterone
  - c. Estrogen
  - d. LH and Progesterone
5. Glucagon
  - a. accelerates protein synthesis within cells
  - b. accelerates conversion of glycogen into glucose
  - c. decreases conversion of glycogen into glucose
  - d. slows down glucose formation from lactic acid
6. Insulin activates cells by binding to the following receptor?
  - a. G protein Receptor
  - b. Tyrosine kinase Receptor
  - c. Nuclear receptor
  - d. None of the above
7. Estrogen can easily pass the membrane by simple diffusion because it is
  - a. Hydrophilic
  - b. Lipophilic
  - c. Enter through the pore
  - d. None of the above.
8. In the liver, insulin decreases the production of glucose by inhibiting
  - a. glycolysis
  - b. gluconeogenesis
  - c. glycogenesis
  - d. All of the above.
9. The ovum is surrounded by a mass of several thousand small granulosa cells, called the
  - a. Corona radiata
  - b. antrum
  - c. Sertoli cells
  - Zona pellucida



**( PART-B : Descriptive )**

Time : 2 hrs. 40 min.

Marks : 50

**[ Answer question no.1 & any four (4) from the rest ]**

1. What is mean by endocrine, paracrine and autocrine signaling? 3+5+2=10  
Differentiate between endocrine and exocrine gland. Why pancreas is called heterocrine gland?
  
2. Describe the mechanism of hormone response resulting from the 8+2=10  
binding of a hormone with an intracellular receptor. What would be the physiological consequence of a disease that destroyed the beta cells of the pancreas?
  
3. Discuss the hypoglycemic role of insulin. How does it effect lipid 4+4+2=10  
metabolism. What is the role of C-peptide in insulin formation?
  
4. Draw a Graffian follicle. What role does the pituitary hormones play 3+7=10  
in ovulation?
  
5. "The adrenal medulla releases its hormones in response to acute, 6+4=10  
short-term stress"-Justify the statement.  
Compare and contrast the roles of aldosterone and cortisol.
  
6. What are trophic hormones? What are the hormones secreted by 2+3+5=10  
adenohypophysis? Describe their functions in the body.
  
7. Describe the histology of thyroid gland. What is Iodine trapping? 3+2+5=10  
Discuss the role of Iodine in biogenesis of thyroid hormones.
  
8. Write Short Note on Following: 5+5=10
  - a. Hypothalamo-hypophyseal axis.
  - b. Function of Oxytocin.

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