



RZ-003-1016038

Seat No. _____

B. Sc. (Sem. VI) (CBCS) Examination

March - 2019

BC - 603 : Endocrinology and Cancer Biology

Faculty Code : 003

Subject Code : 1016038

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- 1 (A) Write answers in one or two sentences : 4
- (1) Write the biochemical nature and function of receptor.
 - (2) Why the endocrine glands are called ductless glands ?
 - (3) Name the bonds involved in binding between receptor and ligand.
 - (4) What do you understand by symptoms of a disease ?
- (B) Write any **one** out of two in brief : 2
- (1) Write the difference between agonist and antagonist.
 - (2) Giving one example, define mobile receptors.
- (C) Write any **one** out of two in detail : 3
- (1) Define Hormone therapy and discuss its various types.
 - (2) Write an overview of functions of hormones.
- (D) Write detailed note on any **one** out of two : 5
- (1) List major endocrine gland with their hormones.
 - (2) Discuss events when hormone receptor is membrane bound.

- 2 (A) Write answers in one or two sentences : 4
- (1) Write the two major effects of thyroid hormones on body.
 - (2) Give the function of somatomedin.
 - (3) What is osteomalacia?
 - (4) What is bone resorption ?
- (B) Write any **one** out of two in brief : 2
- (1) Give the difference between toxic and non-toxic goiter.
 - (2) Name the cells secreting growth hormone and the chemical nature of Growth hormone.
- (C) Write any **one** out of two in detail : 3
- (1) Explain synthesis of thyroid hormones.
 - (2) What do you understand by gigantism, acromegaly and dwarfism?
- (D) Write detailed note on any **one** out of two : 5
- (1) Discuss parts, histology, hormones and disorders of posterior pituitary.
 - (2) Discuss parathyroid gland and its hormones.
- 3 (A) Write answers in one or two sentences : 4
- (1) Write the two major function of GI hormones.
 - (2) Give the basic functional difference between insulin and glucagon.
 - (3) What is NIDDM?
 - (4) What do you understand by menarche?
- (B) Write any **one** out of two in brief : 2
- (1) Define catecholamine and name the two amino acids used for synthesis of catecholamines.
 - (2) Give the chemical nature and synthesis of progesterone.

- (C) Write any **one** out of two in detail : **3**
- (1) Discuss about gastrin, GIP and ghrelin.
 - (2) Write a note on applied physiology of adrenal cortex.
- (D) Write detailed note on any **one** out of two : **5**
- (1) Discuss the functions , mechanism of action and regulation of mineralocorticoids.
 - (2) Describe functions,, mode of action and regulation of testosterone.
- 4 (A) Write answers in one or two sentences : **4**
- (1) Define Signal Transduction.
 - (2) Name the enzyme which plays role in termination of signal.
 - (3) State full form of cAMP and name enzyme which forms cAMP.
 - (4) Give example of cytosolic receptor.
- (B) Write any **one** out of two in brief : **2**
- (1) State components of signal transduction pathway.
 - (2) State types of cell signalling.
- (C) Write any **one** out of two in detail : **3**
- (1) Explain mechanism of action of estrogen receptors.
 - (2) Enlist structural domains of nuclear receptors.
- (D) Write detailed note on any **one** out of two : **5**
- (1) Write a short note on cAMP as secondary messenger.
 - (2) Write an- essay on role of all components of signal transduction.

- 5 (A) Write answers in one or two sentences : 4
- (1) Define the term: Physical carcinogen
 - (2) Write the functional role of DNA damage and repair in control of cancer.
 - (3) Why benign tumor is usually not harmful?
 - (4) What do you understand by the term viral oncogenes?
- (B) Write any **one** out of two in brief : 2
- (1) Tumor cells are self cells then why does our immune system becomes reactive against them?
 - (2) Classify the types of cancer based on its origin.
- (C) Write any **one** out of two in detail : 3
- (1) Briefly explain the characteristics of tumor cells.
 - (2) Write the role of p53 in pathogenesis of the cancer.
- (D) Write detailed note on any **one** out of two : 5
- (1) Explain the DNA damage and repair genes and tumor suppressor genes in the carcinogenesis
 - (2) Explain stages of metastasis with help of labelled diagram.
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