



JC-003-1016038

Seat No. _____

B. Sc. (Sem. VI) Examination

August - 2019

Endocrinology & Cancer Biology - BC-603

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

[Total Marks : 70

- 1 (a) Write answers in one or two sentences : $1 \times 4 = 4$
- (i) Name the two major coordinating systems.
 - (ii) What is cell-to-cell signalling?
 - (iii) Why the endocrine glands are called ductless glands?
 - (iv) What do you understand by circadian rhythm?
- (b) Write any one out of two in brief : $1 \times 2 = 2$
- (i) Write the difference between signs and symptoms.
 - (ii) What do you understand by agonist and antagonist?
- (c) Write any one out of two in detail : $1 \times 3 = 3$
- (i) Give the chemical classification of hormones.
 - (ii) Explain feed back mechanism with one example.
- (d) Write detailed note on any one out of two : $1 \times 5 = 5$
- (i) List major endocrine glands with their hormones.
 - (ii) Give mechanism of action of peptide hormone.
- 2 (a) Write answers in one or two sentences : $1 \times 4 = 4$
- (i) Name the two divisions of pituitary gland.
 - (ii) Why some hormones of adenohipophysis are called tropic hormones ?
 - (iii) What is somatomedin ?
 - (iv) Name the two main sources of calcium in diet.

- (b) Write any one out of two in brief : **1×2=2**
- (i) Name the hormones of posterior pituitary with their main functions.
 - (ii) Give the difference between rickets and osteomalacia.
- (c) Write any one out of two in detail : **1×3=3**
- (i) What do you understand by the term bone remodelling?
 - (ii) Discuss the common disorders of thyroid gland.
- (d) Write a detailed note on any one out of two : **1×5=5**
- (i) Discuss parts, histology, hormones with their main functions of anterior pituitary.
 - (ii) Explain mode of action, functions and regulation of thyroid hormones.
- 3** (a) Write answers in one or two sentences : **1×4=4**
- (i) What are Enteroendocrine cells ?
 - (ii) Name the two hormones responsible for maintaining sodium levels in blood.
 - (iii) Why adrenal glands are called life saving glands?
 - (iv) Name the two active male hormones.
- (b) Write any one out of two in brief : **1×2=2**
- (i) Why the hormones of adrenal cortex are named mineralocorticoids and glucocorticoids ?
 - (ii) Draw a line diagram for synthesis of catecholamines.
- (c) Write any one out of two in detail : **1×3=3**
- (i) Discuss briefly about structure, histology of adrenals along with chemistry and half life of its various hormones.
 - (ii) Discuss about gastrin and secretin.

- (d) Write detailed note on any one out of two : $1 \times 5 = 5$
- (i) Describe the source, functions and mode of action of insulin.
 - (ii) Discuss in detail about progesterone.
- 4 (a) Write answers in one or two sentences : $1 \times 4 = 4$
- (i) State stages of cell signalling.
 - (ii) Define Signal amplification.
 - (iii) List components of signal Transduction pathway.
 - (iv) Define ligand.
- (b) Write any one out of two in brief : $1 \times 2 = 2$
- (i) State different types of receptors based on location.
 - (ii) Give full form of GPCR.
- (c) Write any one out of two in detail : $1 \times 3 = 3$
- (i) State and briefly differentiate between different types of cell signalling by secreted molecules.
 - (ii) State different types of membrane bound receptors.
- (d) Write detailed note on any one out of two : $1 \times 5 = 5$
- (i) Give role of GPCR and mechanism of action in signal transduction.
 - (ii) Write a short note on cGMP as secondary messenger.
- 5 (a) Write answers in one or two sentences : $1 \times 4 = 4$
- (i) Write two examples of benign tumor.
 - (ii) What do you mean by metastasis?
 - (iii) Define the role of anti oncogenes.
 - (iv) Write two examples of carcinogenic agents.

- (b) Write any one out of two in brief : **1×2=2**
- (i) Write about leukemia.
 - (ii) Write the role of retrovirus in the development of cancer.
- (c) Write any one out of two in detail : **1×3=3**
- (i) Briefly explain the role of RB gene and its connection with cancer.
 - (ii) Explain the characteristics of neoplastic cells.
- (d) Write detailed note on any one out of two.: **1×5=5**
- (i) Explain stages of metastasis with help of diagram.
 - (ii) Write about the methods to diagnose cancer.
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