MAO-003-001638   Seat No. _____

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

March / April - 2018

Endocrinology, Cancer Biology & Bioinformatics

Faculty Code : 003
Subject Code : 001638

Time : $2\frac{1}{2}$ Hours]   [Total Marks : **70**

1   Give the correct answers for the questions :   **20**

   (1)   Give the site of location of receptors for estrogen and thyroid.

   (2)   Name the two main sources of calcium in diet.

   (3)   What is circardian rhythm?

   (4)   Give the difference between triiodothyronine and reverse triiodothyronine.

   (5)   Which hormone shows circadian rhythm with reference to adrenal gland ?

   (6)   What do you understand by preproinsulin ?

   (7)   Which cells secrete, testosterone ?

   (8)   Name the cells secreting insulin and glucagon.

   (9)   Define the term : Metastasis

   (10) Write briefly about the molecular basis of cancer occurrence.

   (11) What are tumor antigens? Write at least two examples.

   (12) How UV Rays are associated with skin cancer ?

   (13) What is the full form of SCOP and CATH?

   (14) Give the different methods for DNA sequencing.

   (15) What do you mean by annotation?

(16) Give the name of systems required for database management?

(17) Give the difference between fast X and fast Y.

(18) Which institute is managing Swiss prote?

(19) Which are the search tools for PDB?

(20) What is FTP and TPA?

2 (a) Answer any **three** of the following questions : 2×3=6

(1) Give the function and location of adenyl cyclase.

(2) Why the hormones of adrenal cortex are named mineralocorticoids and glucocorticoids ?

(3) What do you understand by exophthalmos?

(4) What is the difference between local and global alignment?

(5) Which are the methods used to detect 3D structure of proteins?

(6) Write about the cancer incidence as a function of Age.

(b) Answer any **three** of the following questions : 3×3=9

(1) With one example, explain feedback mechanism.

(2) Write a note on different types of cell found in anterior pituitary.

(3) Write the significance of data base.

(4) Write the advantages of Human genome project.

(5) Write the different types of BLAST.

(6) Write about the role of free radicals in the occurrence of cancer.

(c) Answer any **two** of the following questions : 5×2=10

    (1) Write a detailed note on hypothalamus and the pituitary hormones controlled by it.

    (2) Discuss about parathyroid, gland.

    (3) Explain any three external factors associated with carcinogenesis.

    (4) Write in detail nucleotide sequence database : Genbank.

    (5) Discuss about bibliographic database in detail.

3 (a) Answer any **three** of the following questions : 2×3=6

    (1) How testosterone is responsible for the sex differentiation of male fetus ?

    (2) Write the effect of estrogen.

    (3) Give the difference between bone resorption and deposition.

    (4) What is Data and database?

    (5) What is accession and ID number?

    (6) Define tumor antigens; write two examples.

(b) Answer an **three** of the following questions : 3×3=9

    (1) With well labelled diagram; give the role of G protein in hormonal action.

    (2) Write a short note on functional anatomy of thyroid gland.

    (3) Write the note on Biological, databases.

    (4) What is hierarchical database? Give the disadvantage.

    (5) Give the note on PDB.

    (6) Write about the classification of cancer on the basis of its origin.

(c)   Answer any **two** of the following questions :   5×2=**10**

    (1)   Discuss the various steps for synthesis of thyroid hormones.

    (2)   Discuss in detail about progesterone.

    (3)   Draw the labelled diagram showing the process of metastasis and write two differences between benign and malignant tumor.

    (4)   Give short note on application of bioinformatics.

    (5)   Give detailed note on primary protein sequence database.
       Give the Pub Med article submission and retrieval system with diagram.

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