



AAI-003-001638

Seat No. _____

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

March / April - 2016

Endocrino CAN Biology & Bioinfo. : Paper - 603

Faculty Code : 003

Subject Code : 001638

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

[Total Marks : 70

1 Select the correct answer for the questions from the given 20 choices :

- (1) Which of the following is correctly paired ?
 - (A) beta cells- somatostatin
 - (B) F cells- gastrin
 - (C) delta cells- insulin
 - (D) alpha cells- glucagon
- (2) Ca^{++} plays an important role in following biological processes except
 - (A) oxygen utilization
 - (B) contraction of cardiac muscle
 - (C) contraction of skeletal muscle
 - (D) blood coagulation
- (3) Epiphyseal closure is regulated by
 - (A) calcitonin
 - (B) somatomedins
 - (C) 1,25 dihydroxy cholecalciferol
 - (D) thyroxine
- (4) Excessive growth hormone secretion in adults causes
 - (A) acromegaly
 - (B) gigantism
 - (C) increased entry of glucose in muscles
 - (D) hypothyroidism
- (5) Cortisol increases blood glucose level by
 - (A) increasing lipolysis
 - (B) increasing Protein synthesis in muscles
 - (C) increasing gluconeogenesis
 - (D) increasing growth hormone secretion

- (6) Which of the following is not involved in regulation of plasma Ca^{++} levels ?
 (A) kidneys (B) skin
 (C) lungs (D) intestine
- (7) Thyroid hormone stored in the lumen of follicles is in the form of
 (A) free T3
 (B) free T4
 (C) attached to thyroglobulin in the gland
 (D) attached to thyroid binding globulin
- (8) Identify the hormone that binds to intracellular receptor:
 (A) insulin
 (B) glucocorticoids
 (C) glucagons
 (D) thyroid stimulating hormone (TSH)
- (9) Which dietary factor is known to have protective effects against various types of cancer?
 (A) Vitamin A (C) Vitamin E
 (B) Vitamin C (D) All of above
- (10) Sarcomas are normally develops from the
 (A) Ectodermal origin (C) Mesodermal origin
 (B) Endodermal origin (D) All of above.
- (11) The main causative virus for the warts on the skin is
 (A) HBV
 (B) Pox virus
 (C) Human papilloma virus
 (D) EB virus
- (12) Normal cells usually attached to each other due to the presence of
 (A) Tumor suppressor protein
 (B) Cell Adhesion Molecules
 (C) Cell membrane
 (D) None of (A), (B), (C)
- (13) The first bioinformatics database was created by
 (A) Richard Durbin (B) Dayhoff
 (C) Michael J. Dunn (D) Pearson
- (14) A Single Piece of Information in a database is called
 (A) File (B) Field
 (C) Dataset (D) Record
- (15) Human genome contains about
 (A) 2 billion base pairs (B) 3 billion base pairs
 (C) 4 billion base pairs (D) 5 billion base pairs

- (16) Operating system is
 (A) A collection of hardware components
 (B) A collection of input-output devices
 (C) A collection of software routines
 (D) All of the above
- (17) SWISS PORT is related to
 (A) Portable data (B) Swiss Bank data
 (C) Sequence data bank (D) Structure data
- (18) Blossum matrices are used for _____
 (A) Multiple sequence alignment
 (B) Pair wise sequence alignment
 (C) Phylogenetic analysis
 (D) All of the above
- (19) Which is data retrieving tool?
 (A) ENTREZ (B) EMBL
 (C) PHD (D) All of these
- (20) Nucleotide and protein reference sequence are submit and maintained in _____.
 (A) Genebank (B) NCBI
 (C) EBI (D) Swiss prot

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

- (1) Name the two great coordinating systems in human body.
- (2) Write the names of the disease caused by hyperactivity and hypoactivity of adrenal gland.
- (3) Enlist few methods to diagnose cancer.
- (4) What is third party annotation?
- (5) Write the data retrieval tools for Genbank.
- (6) Define the role of anti oncogenes.

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

- (1) Discuss the actions of insulin on cell membrane permeability.
- (2) Give the names and function of gonadotrophic hormones.
- (3) Write a note on viral carcinogenesis.
- (4) Write about Hierarchical database.
- (5) Write the important links of PubMed.
- (6) Give the different types of FASTA tool.

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

- (1) Describe the chemistry, biosynthesis, major actions and regulation of growth hormone.
- (2) Discuss about parathyroid gland.
- (3) Write a note on benign and malignant tumor.
- (4) Write the different types of database.
- (5) Give brief about EMBL.

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

- (1) Give the function and different types of receptor.
- (2) List the proteins involved in carriage of thyroid hormones.
- (3) Define benign tumors.
- (4) What is the Human genome project?
- (5) Write the names of data retrieval tools for Genbank.
- (6) What is the difference between cortisol and corticosterone ?

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

- (1) Write a short note on posterior pituitary
- (2) Draw a well labelled diagram of microscopic view of thyroid hormone.
- (3) Write the effect of proto-oncogenes on the normal regulation of cell cycle.
- (4) Give the short note on bioinformatics.
- (5) Write about nucleotide sequence database DDBJ.
- (6) Discuss different types of receptors.

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

- (1) With well labelled diagram explain the role and development of Graffian follicle.
- (2) Discuss the chemistry, biosynthesis, functions and mechanism of action of glucagon.
- (3) Write a detailed note on various genes involved in pathogenesis of cancer.
- (4) Give the application of Bioinformatics.
- (5) Write the brief note on BLAST.