

**B.Sc. (Part—I) Semester—II Examination**  
**2S : BIOINFORMATICS**  
**(Computer Fundamentals and Operating Systems)**

Time : Three Hours]

[Maximum Marks : 80

- Note** :— (1) All questions are compulsory.  
(2) Draw schematic representation wherever necessary.

1. (A) Fill in the blanks :

- (i) The main characteristic feature of 3<sup>rd</sup> generation computers was the use of \_\_\_\_\_.
- (ii) The broken-up units of tracks are known as \_\_\_\_\_.
- (iii) The hexadecimal systems consists of \_\_\_\_\_ symbols.
- (iv) \_\_\_\_\_ is the central part of the Unix OS that manages and controls the communication between the various hardware and software components. 2

(B) Choose the correct alternatives :

- (i) On what basis computers can be classified ?
  - (a) Operating principles
  - (b) Applications
  - (c) Size and Capability
  - (d) All of the above
- (ii) Cache Memory is used to transfer data between :
  - (a) Main memory and secondary memory
  - (b) Processor and an input device
  - (c) Main memory and processor
  - (d) Processor and an output device
- (iii) Which of the following devices is not an optical recognition device ?
  - (a) MICR
  - (b) OMR
  - (c) OCR
  - (d) Microphone
- (iv) The number system with base 2 is known as :
  - (a) Decimal system
  - (b) Binary system
  - (c) Octal system
  - (d) Hexadecimal system 2

(C) Answer in **one** sentence each :

- (i) Who is known as the father of modern digital computers ?
- (ii) What is the function of a control bus in a computer system ?
- (iii) On which type of ROM, data can be written only once ?
- (iv) CRT is an abbreviation of ? 4

2. (A) Draw a block diagram of computer and explain each block. 4

(B) Describe the classification of storage system. 4

(C) What are scanning devices ? Explain the basic characteristics of these devices. 4

**OR**

(P) Differentiate between an assembler and an interpreter. 4

(Q) Differentiate between an impact printer and non-impact printer. Give one example of each. 4

(R) Explain :

- (i) Binary to Octal conversion
- (ii) Binary to Hexadecimal conversion. 4

3. (A) Give three different text formatting tabs used in MS-Word. 4  
(B) What is mail-merge ? Explain. 4  
(C) Explain the use and importance of My Computer icon on Desktop. 4

**OR**

- (P) Explain Tabs and Indentation in MS-Word. 4  
(Q) Give various operations done on Files and Folders. 4  
(R) Explain any four features of Windows Desktop. 4
4. What is MS-EXCEL ? Explain in detail features of MS-EXCEL with respect to creating and formatting worksheet, inserting data and entering mathematical formulas. 12

**OR**

- Define Internet. Describe in detail types of internet connections. 12
5. Define Operating System. Explain in detail features of Unix Operating System and file system in Unix. 12

**OR**

- Describe in detail process scheduling, memory management and execution and terminating program in Unix. 12
6. (A) Draw the layered structure of Linux. 4  
(B) Explain, how different processes communicate in Linux. 4  
(C) How security is important in Linux File System ? 4

**OR**

- (P) What is Swapping ? Explain. 4  
(Q) Explain the memory management process in Linux. 4  
(R) State and explain functions of Kernel in Linux. 4
7. (A) Explain the advantages of networking in Computer System. 4  
(B) Explain the star topology. 4  
(C) What are network protocols ? Give two examples. 4

**OR**

- (P) Explain bus topology. 4  
(Q) Explain seven layered OSI model. 4  
(R) Give and explain different types of computer networks. 4