

UG 1st Semester Examination, 2024 (Reg)

MULTIDISCIPLINARY COURSE

Paper – Computer Fundamentals

Full Marks : 100

Time : 3 hours

Answer all questions

The figures in the right-hand margin indicate marks

1. Answer *all*. Write the *correct* answer from the given alternatives : 1 × 10
- (i) The Central Processing Unit (CPU) is responsible for
- (a) Storing data permanently
 - (b) Performing calculations and executing instructions
 - (c) Displaying output to the user
 - (d) Connecting to the internet

(Turn Over)

(ii) Which characteristic of computers refers to their ability to perform multiple tasks simultaneously ?

- (a) Automation
- (b) Versatility
- (c) Multitasking
- (d) Connectivity

(iii) Who proposed the Stored Program Concept ?

- (a) Alan Turing
- (b) Charles Babbage
- (c) John von Neumann
- (d) Bill Gates

(iv) Which of the following is NOT an input device ?

- (a) Keyboard
- (b) Mouse
- (c) Printer
- (d) Scanner

(v) Which type of memory is used to store the computer's BIOS ?

- (a) RAM
- (b) ROM
- (c) Cache Memory
- (d) Hard Disk

(vi) Which of the following is NOT a mass storage device ?

- (a) External Hard Drive
- (b) CD-ROM
- (c) Cache Memory
- (d) Cloud Storage

(vii) Which of the following is NOT a type of operating system ?

- (a) Batch OS
- (b) Multiprogramming OS
- (c) Time-sharing OS
- (d) Microsoft Word

(5)

- (b) Infrastructure as a Service
- (c) Integration as a Service
- (d) Information as a Service

2. Answer *all* questions : 2 × 9

- (i) Define a computer in simple terms.
- (ii) What is firmware ? Give an example.
- (iii) How does a scanner work as an input device ?
- (iv) What is the main purpose of registers in memory hierarchy ?
- (v) What is primary memory ? Give an example.
- (vi) Define an Operating System.
- (vii) What is the primary difference between a Batch Operating System and a Multi-programming Operating System ?

(Turn Over)

(viii) Define Peer-to-Peer (P2P) Computing.

(ix) Define e-Governance and its benefits for citizens.

3. Answer any *eight* of the following : 5×8

(i) Explain the term "fetch-decode-execute cycle" in computer processing.

(ii) What are the basic symbols used in a flowchart and why are they used ?

(iii) Explain the simple model of a computer with a neat diagram. Describe its basic components and their functions.

(iv) Explain the memory hierarchy in a computer system with a diagram.

(v) Explain the role of input devices in a computer system. Give examples of any three input devices and describe their functions.

- (vi) Differentiate between impact and non-impact printers. Give examples of each type.
- (vii) What are the key services provided by an Operating System ? Explain how these services help in efficient system functioning.
- (viii) What is a router and what role does it play in computer networks ? Discuss how routers enable data communication between different networks.
- (ix) What is Distributed Computing ? Discuss how it improves computational efficiency and provides fault tolerance.
- (x) What are the challenges in adopting Cloud Computing ? Discuss issues related to security, data privacy and downtime.

4. Answer any *four* of the followings : 8×4

(i) Describe any four major characteristics of computers. Explain how these characteristics make computers more efficient than human in problem-solving.

(ii) Explain the classification of software. Give suitable examples of each type and describe their roles in a computer system.

(iii) What is the function of Read-Only Memory (ROM) ? Explain its different types.

(iv) Define Network Topology. Describe different types of network topologies such as star, ring and mesh, along with their advantages and disadvantages.

(v) Discuss the concept of e-Commerce. How has it revolutionized the retail industry? Explain with examples.