

Roll No. ....

# **MGIS-01/PGDGIS-01/CGIS-01**

## **Introduction to Informatics**

Master of Geographical Information System/Post  
Graduate Diploma in Geographical Information  
System/Certificate in Geographical Information  
System (MGIS/PGDGIS/CGIS-11/16/17)  
First Year/First Semester, Examination, 2018

**Time : 3 Hours**

**Max. Marks : 80**

**Note :** This paper is of **eighty (80)** marks containing **three (03)** Sections A, B and C. Learners are required to attempt the questions contained in these Sections according to the detailed instructions given therein.

### **Section-A**

#### **(Long Answer Type Questions)**

**Note :** Section 'A' contains four (04) long answer type questions of nineteen (19) marks each. Learners are required to answer *two* (02) questions only.

1. (a) Define topology and explain the advantages and disadvantages of bus, star and ring topology. 10
- (b) Which OSI layer performs the following activities : 9
  - (i) Error detection and Correction
  - (ii) Routing

**(B-94) P. T. O.**

- (iii) Responsibility for delivery between adjacent nodes
  - (iv) Reliable process to process data transportation.
  - (v) Framing
2. (a) Explain the role of database administrator. 7
- (b) Define the following with suitable example : 7
- (i) Functional dependency
  - (ii) Referential integrity rule
- (c) What do you mean by update anomalies ? 5
3. (a) What is Operating System ? Discuss various functions performed by operating system. 7
- (b) Explain Process control Block. 5
- (c) Define the essential properties of the following operating system : 7
- (i) Batch
  - (ii) Interactive
  - (iii) Time sharing
  - (iv) Real time
  - (v) Network
  - (vi) Parallel
  - (vii) Distributed
4. (a) Convert the following : 10
- (i) Convert decimal numbers 755.9375 to its hexadecimal equivalent.

- (ii) Convert the binary number  $(0110.001)_2$  into decimal.
  - (iii) Determine decimal equivalent of  $(B14)_{16}$ .
  - (iv) Determine binary equivalent of  $(231)_8$ .
  - (v) Determine the hexadecimal equivalent of  $(2327)$ .
- (b) Explain any *four* secondary storage derives in detail. 9

### Section-B

#### (Short Answer Type Questions)

**Note :** Section 'B' contains eight (08) short answer type questions of eight (08) marks each. Learners are required to answer *four* (04) questions only.

1. Describe the pre-emptive and non-pre-emptive scheduling. Explain each type with an example.
2. Explain the advantages and disadvantages of database system over conventional file system.
3. Define Normalization. Explain 1st, 2nd and 3rd Normal forms with examples.
4. What is the difference between Internet, Intranet and Extranet ?
5. What is Computer Memory ? Explain its different types.
6. Write short notes on the following :
  - (a) DDL
  - (b) DML
  - (c) Data redundancy and Consistency
  - (d) Data atomicity
7. Explain the different keys in RDBMS.
8. Describe OSI model. What are the layers in OSI reference model ?

**Section-C****(Objective Type Questions)**

**Note :** Section 'C' contains ten (10) objective type questions of one (01) mark each. All the questions of this Section are compulsory.

1. Process is :
  - (a) program in high level language kept on disk
  - (b) contents of main memory
  - (c) a program in execution
  - (d) a job in secondary memory
2. The brain of any computer system is :
  - (a) ALU
  - (b) Memory
  - (c) CPU
  - (d) Control unit
3. A computer file contains several records. What does each record contain ?
  - (a) Bytes
  - (b) Words
  - (c) Fields
  - (d) Database
4. Which one is the lowest level of data model ?
  - (a) Physical data model
  - (b) Logical data model
  - (c) External data model
  - (d) None of the above

5. Register which is used to store values of arithmetic and logical operations is termed as :
  - (a) Arithmetic register
  - (b) Accumulator
  - (c) Logical register
  - (d) Controller
6. Secondary storage memory is basically :
  - (a) volatile memory
  - (b) non-volatile memory
  - (c) backup memory
  - (d) impact memory
7. Convert hexadecimal value 16 to decimal :
  - (a)  $22_{10}$
  - (b)  $16_{10}$
  - (c)  $10_{10}$
  - (d)  $20_{10}$
8. Which of the following is not an operating system ?
  - (a) DOS
  - (b) Linux
  - (c) Windows
  - (d) Oracle
9. Convert the binary number  $(1001.0010)_2$  to decimal :
  - (a) 90.125

- (b) 9.125
  - (c) 125
  - (d) 12.5
10. Process of reading data from permanent store and writing it to computer's main memory is called :
- (a) saving the data
  - (b) loading the data
  - (c) writing the data
  - (d) reading the data