M.Sc. 3rd Semester Examination, 2018

COMPUTER SCIENCE

PAPER –COS-304

Full Marks : 50

Time : 2 hours

The figures in the right-hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

MODULE – 1

(*DBMS*)

[*Marks* : 25]

Answer any two questions

1. (*a*) What is DBMS ? Write down some differences between DBMS and regular file system.   2 + 3

(b) What is primary key and foreign key in a table.   3

(c) Write a SQL query to create a table with a Primary key.   2

2. (a) Explain integrity constraints in DBMS.   5

    (b) What is functional dependency ?   2

    (c) Describe Armstrong's axioms.   3

3. (a) What is an Entity Relationship diagram ?   2

    (b) Explain different components of an ER diagram.   8

4. Write short notes on following topics(any *two*) :
                                    5×2
    (i) Data independence

    (ii) Three schema architecture

    (iii) Multi-valued dependency

    (iv) Join dependency.

[*Internal Assessment* : 05 Marks]

MODULE – 2

(*Internetworking*)

[*Marks* : 25]

Answer any **two** questions

1. (*a*) What do you mean by data communication ? Briefly describe the factors on which the effectiveness of data communication system depends.　　　　　　1 + 4

   (*b*) Differentiate between point-to-point and multipoint connections.　　　　　2

   (*c*) Eight devices are arranged in a mesh topology. How many cables are needed ? How many ports are needed for each device ?　　3

2. (*a*) What do you mean by internet ? Give some examples of services provided by internet. 2 + 3

   (*b*) What is network protocol ? What are the key elements of a protocol ?　　　　2 + 3

3. (a) Describe the responsibilities of the user oriented layer in ISO|OSI reference model. 4

(b) Which types of networks are used in bluetooth technology ? Describe them. Explain bluetooth protocol stack in this regard. $\left(1\frac{1}{2}+1\frac{1}{2}\right)+3$

4. Write short notes on : $2\frac{1}{2}\times 4$
   (i) LAN
   (ii) Repeater
   (iii) UDP
   (iv) Subnetting.

[*Internal Assessment* : 05 Marks]

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