

Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.Sc(H) (GENET, BT, MOL.BIO,MICRO.BIO)/SEM-4/CA-401/2011**

**2011**

**INTRODUCTION TO DBMS COMPUTER  
NETWORKING & NUMERICAL ANALYSIS**

*Time Allotted : 3 Hours*

*Full Marks : 70*

*The figures in the margin indicate full marks.*

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

**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for the following :

10 × 1 = 10

- i) A periodic signal completes one cycle in.001s.  
What is the frequency ?
  - a) 1 Hz
  - b) 100 Hz
  - c) 1 khz
  - d) 1 MHz.
- ii) Which of the following can be determined from a frequency-domain graph of a signal ?
  - a) Frequency
  - b) Phase
  - c) Power
  - d) All of these.
- iii) BNC connectors are used by ..... cables.
  - a) UTP b) STP
  - c) coaxial d) fibre-optic.



- iv) In an environment with many high-voltage devices, the best transmission medium would be
  - a) twisted-pair cable
  - b) coaxial cable
  - c) fibre-optic cable
  - d) atmosphere.
- v) A ..... bridge has the smallest ID.
  - a) root
  - b) designated
  - c) forwarding
  - d) blocking.
- vi) In a VLAN, stations are separated into given by
  - a) physical methods
  - b) software methods
  - c) location
  - d) switches.
- vii) The ..... layer is the layer closest to the transmission medium.
  - a) physical
  - b) data link
  - c) network
  - d) transport.
- viii) Mail service are available to network users through the ..... layer.
  - a) data link
  - b) physical
  - c) transport
  - d) application.
- ix) The ..... layer lies between the network and the application layer.
  - a) physical
  - b) data link
  - c) transport
  - d) none of these.
- x) Layer 2 lies between the physical layer and the ..... layer.
  - a) network
  - b) transport
  - c) application
  - d) none of these.



**GROUP – B**

**( Short Answer Type Questions )**

Answer any *three* of the following.  $3 \times 5 = 15$

2. What is Data Manipulation Language ? Discuss with example.
3. Explain super key, candidate key, primary key with example.
4. a) What is purpose of cladding in an optical fibre ?  
b) What are the advantages and disadvantages of optical fibre ?  $2 \frac{1}{2} + 2 \frac{1}{2}$
5. How many layers are there in the TCP/IP model ? Explain them briefly.  $2 + 3$
6. Find a solution of the following equation using Regula Falsi method :  $x^3 - 3x + 7 = 0$  .

**GROUP – C**

**( Long Answer Type Questions )**

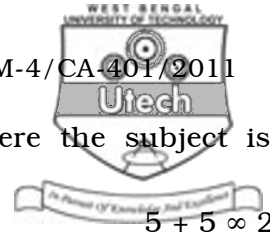
Answer any *three* of the following.  $3 \times 15 = 45$

7. Create student table roll\_no as the primary key and insert the values :

Roll_No	Name	Address	DOB	Sex	Subject	Marks
01	Suman	Delhi	7.12.1990	Male	Hindi	70%
02	Susmita	Kolkata	23.02.1988	female	Bengali	89%
03	Kamal	Pune	10.08.1991	Male	English	70%
04	Poulami	Goa	21.10.1992	female	Biology	80%

Write the following SQL query and show the possible output :

- a) Select all values
- b) Select students who are female
- c) Select students who's name starts from "S".



- d) Replace marks "70%" by "75%" where the subject is "Hindi"
- e) Delete "Suman" from the table. 5 + 5 ∞ 2

8. a) Using Runge, Kutta 4th order, find the value of  $y ( 0.2 )$  and  $y ( 0.4 )$  when  $dy/dx = 1 + y^2$  and  $y = 0$  when  $x = 0$ .
- b) Compute  $f ( 0.33 )$  and  $f ( 0.39 )$  where the following are data :

<b>x :</b>	0.30	0.32	0.34	0.36	0.38	0.40
<b>f ( n )</b>	1.7596	1.7698	1.7804	1.7912	1.8024	1.8139

7 + 8

9. a) Why does internet use a connectionless network ?
- b) When net id 172.168.65.13 belongs to subnet mask 255.255.192.0, find no. of subnet and no. of host/subnet.  
Calculate the total no. of subnet and host/subnet.
- c) Calculate valid host range of the following :  
subnet id : 148.56.64.0, subnet mask : 255.255.252.0  
&  
subnet id : 152.56.144.0, subnet mask : 255.255.254.0

3 + 6 + 6

10. a) Briefly discuss the internet model.
- b) What is a transparent bridge and what is the difference between root bridge and designated bridge ? 10 + 5
11. Write short notes on any *three* of the following : 3 × 5
- a) OSI model
  - b) LAN
  - c) ER-diagram

CS/B.Sc(H) (GENET, BT, MOL.BIO,MICRO.BIO)/SEM-4/CA-401/2011

- d) Simpson's  $\frac{1}{3}$  rd rule
- e) Classfull and classless addresses.
- 
- 

