

Roll No.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, MAY 2013

INFORMATION TECHNOLOGY
Semester II

IT8201 INFORMATION TECHNOLOGY ESSENTIALS
(Regulation 2012)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. What are the issues to be considered while building a web site for a common user?
2. List any four authoring tools and highlight the importance of each tool.
3. Write the output of the following PHP code.

```
<?php
$x=5;
$y=10;

function myTest()
{
    global $x,$y;
    $y=$x+$y;
    $x = 300;
}

myTest();
echo $y . " , " . $x;
?>
```

4. Explain the way in which sessions are handled in PHP.
5. Write a MySQL statement to create a table EMPLOYEE with EID as a primary integer key which is to be incremented whenever a new employee is inserted.
6. List four commonly used topologies to set up a LAN. Suggest a MAC scheme for each.
7. Differentiate between a repeater, a hub and a switch.
8. Differentiate between CDMA and GSM networks in terms of sharing access to the channel.
9. If you lose your cell phone, you would deactivate your SIM. How is this achieved in the GSM architecture ?
10. List the steps involved in a typical application development life cycle.

Part – B (5 x 16 = 80 marks)

11. (i) Create a HTML form "result.html" with a text box and a submit button to accept the register number of the student. Write a "result.php" code to check the status of the result from the table to display whether the student has "PASS" or "FAIL" status. Assume that the MySQL database "my_db" has the table "result_table" with two columns REG_NO and STATUS. (8)
- (ii) Consider a cellular communication network that spans multiple cities, with each city having one MSC. Trace the steps in setting up a call for two subscribers X and Y who belong to the same city, say Chennai, in the following scenarios. What charges would they have to pay ?
- (A) X in Chennai calls Y roaming in Delhi
- (B) Y roaming in Delhi calls a local land-line number in Delhi. (8)
12. (a) (i) Using DIV element, write HTML code to design a web site layout for online movie booking. The top division provides the details about the theatre. The next left division provides the links such as current movies, and booking. The current movie link, when clicked should display the list of movies currently being screened (in a drop down list box) and when the movie name is selected from the list box, the corresponding show timing with availability status (checked / unchecked) must be displayed. The booking link, when clicked must display a form (movie name- dropdown list box, show timings - minimum two radio buttons, number of tickets – text box, email – text box). Write java script to validate email ID. (10)
- (ii) Consider an IT company which handles many projects with hundreds of employees across the country in different branch office. Suggest the kind of servers that the company needs to maintain and the role of each server. (6)

OR

12. (b) (i) Write a PHP program to declare an array of integers, to sort them in ascending order, and to display the sorted array using for-each. (8)
- (ii) Write a PHP program to read a text file line by line and to display it on the screen. (8)
13. (a) (i) Write a PHP program to delete a record from the "result_table" (Refer Q.No11). (8)
- (ii) Describe how call hand-off is carried out in a cellular network. (8)

OR

13. (b) (i) Why is an SMS restricted to a few characters only ? Explain how an SMS is sent giving the details of the architecture components. (8)
- (ii) In the GSM cellular network, it is said that a 1000 calls can be simultaneously supported. How is this achieved ? (3)
- (iii) Briefly discuss the functions of an MSC. (5)
14. (a) (i) Show how data flows through different layers in a TCP/IP network, where you have to go through 2 routers to go from the source to the destination. Calculate the number of times encapsulation and decapsulation take place. (8)
- (ii) Explain the CSMA/CD scheme used in Ethernet. If we want to set up an Ethernet network connecting 4 different Labs with 90 systems in each Lab, show a configuration that can be used with 48-port switches. (8)

OR

14. (b) (i) Explain the functions carried out by each layer in the TCP/IP model, and the protocols used at these layers. (8)
- (ii) Discuss the collision avoidance technique used in wireless LAN. Is it possible for collisions to still occur ? Explain. (8)
15. (a) (i) Design a simple personal application that gives you reminders for each day. Identify the inputs to be taken, processing to be done, and the output to be produced. What multimedia components can be added to this application ? (8)
- (ii) Explain the architecture of a generic search system. If this system is to be used for searching only images, which components would need to be changed and how ? (8)

OR

15. (b) (i) What is an information system? What are the steps involved in the design and development of an information system? (8)
- (ii) Design a simple social-media application to pass on messages to friends whenever two people come in contact with (within range of) one another. Assume that you are using devices with Blue-tooth support to transfer messages. (8)

*** GOOD LUCK ***