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No of Questions - 04

**SCHOOL OF ACCOUNTING AND BUSINESS  
BSc. (APPLIED ACCOUNTING) GENERAL / SPECIAL DEGREE  
PROGRAMME 2013/14**

**YEAR I SEMESTER I (Group B)  
END SEMESTER EXAMINATION – MAY 2014**

**ICT 10130 Introduction to Information Technology**

Date : 11th May 2014  
Time : 9.00a.m.- 12.00 p.m.  
Duration : Three (03) hours

**Instructions to Candidates:**

- This paper consists of two parts (A and B)
- Part A – Answer **all** questions in the sheet provided  
Part B – Answer any **Two (2)** questions out of the Three (3) questions
- The total marks for the paper is 60.
- The marks for each question are shown in brackets.
- Answers should be written neatly and legibly.

## **Part A**

Answer ALL Questions

1. One company out of the following produced the first commercial Operating System with an Icon based Graphical User Interface :
  - a. IBM
  - b. Apple
  - c. Microsoft
  - d. Dell
  
2. Which of the following invention resulted in the most substantial increase in processing power of early computers while bringing their sizes down :
  - a. Invention of the Vacuum Tubes
  - b. Invention of Semiconductors
  - c. Invention of the Transistor
  - d. Invention of the Integrated Circuits (ICs)
  
3. How would you represent the decimal value of 30 in Hexadecimal?
  - a. 1E
  - b. 30
  - c. 1C
  - d. 11010
  
4. How is data represented inside the computer?
  - a. Logical System
  - b. Byte System
  - c. Binary System
  - d. Hexadecimal System

5. Communication between computers is achieved by networking computers together using connecting devices and setting up of strict rules for communication to take place. These 'rules' are more appropriately termed as :
- Protocols
  - Internet
  - Web
  - Browser
6. Which of the following storage devices allows access to information in a sequential mode?
- CD-R
  - DVD
  - Hard disk
  - Magnetic tape
7. Testing a program for any syntax or logic errors is known as :
- Double checking
  - Editing
  - Debugging
  - Decoding
8. In programming, converting high level language into machine language is done by :
- Drivers
  - Service Programs
  - Converters
  - Translators / Compilers
9. What is not true about Google Glasses?
- Google Glass is a wearable computer with an optical head-mounted display
  - Google Glass has the ability to take photos and record Videos
  - The built-in touchpad is optimized for drafting documents.
  - Other than the touchpad, Google Glass can be controlled using "voice actions"

10. Current trends in the field of IT aim at providing wireless services to people while improving on the speed and storage space of existing computer systems. The term 'wireless services' means :
- a. Reduction in cost of computers
  - b. Reduction in the size of computers
  - c. Increase of the memory of the computer
  - d. Without cables
11. In which category of computers do desktop computers, notebooks (laptops) and Personal Digital Assistants (PDA's) fall?
- a. Supercomputers
  - b. Mainframe computers
  - c. Mini computers
  - d. Micro computers
12. Which of the protocols below is used for sending email?
- a. FTP
  - b. SMTP
  - c. TCP/IP
  - d. HTTP
13. Which of the following is NOT a function of the Operating System?
- a. Database management
  - b. Process management
  - c. Memory management
  - d. Disk management
14. Which one is best suited for use with paper of large size and for complex drawings in Computer Aided Design?
- a. Dot-Matrix printer
  - b. Laser printer

- c. Pen plotter
- d. Ink-Jet printer

15. One of the following is not a use of ERPs :

- a. Product Planning and Costing
- b. Developing Marketing Strategy
- c. Manufacturing
- d. Inventory Management

16. Which of the following devices has the largest share among Input Devices available in the Market at present?

- a. Key Boards
- b. Joy Sticks
- c. Mice
- d. Touch Screens

17. Select the answer with the best matching pairs of Brands and what they are popular for:

a. Cray	p. Windows OS
b. IBM	q. Main Frames
c. Lenovo	r. Super Computers
d. Microsoft	s. Biggest Desktop PC Market Share

- a. (a) – (q) | (b) – (r) | (c) – (s) | (d) – (p)
- b. (a) – (r) | (b) – (q) | (c) – (s) | (d) – (p)
- c. (a) – (s) | (b) – (q) | (c) – (r) | (d) – (p)
- d. (a) – (r) | (b) – (s) | (c) – (q) | (d) – (p)

18. Which Software out of the following belongs to the Licensing Type – Open Source?

- a. MS Word
- b. Firefox

- c. Oracle
- d. Acrobat Reader

19. Google is a great example for :

- a. a Centralized System
- b. a Client Server Model
- c. a Distributed System
- d. a Multi Programming System

20. Which of the following Network Topology is easiest to expand?

- a. Mesh
- b. Bus
- c. Star
- d. Ring

21. 3D Printers are creating a revolution in the field of Manufacturing. Which out of the following is not possible to be produced with 3D Printing :

- a. Human Tissues
- b. Small Automobile Spare Parts
- c. Clothes
- d. Holograms

22. Which of the following Technologies is likely to be used for Cash less payments in buses in the near future in Sri Lanka :

- a. NFC (Near Field Communication)
- b. Visa Credit Cards
- c. Master Cards
- d. Dialog eZCash

23. Unidirectional Data Transmission is called \_\_\_\_\_.
- a. Simplex
  - b. Duplex
  - c. Half-Duplex
  - d. None of these
24. What is not true about CAD / CAM Applications?
- a. CAD / CAM Applications are used widely in manufacturing
  - b. CAD is used for Engineering and Architectural Drawings
  - c. CAD / CAM Applications are used for creating Animated Movies
  - d. CAD / CAM Applications are used in Textile Industry
25. It is the central command center of an Operating System. It is the part of the Operating System that loads first, and it remains in main memory.
- a. Task Manager
  - b. CPU
  - c. Memory Manager
  - d. Kernel
26. The goal of Three-Schema architecture is to separate the user applications from physical Database. Which schema in the Three-Schema architecture represents the Entity-Relationships of the entire Database :
- a. External Schema
  - b. Internal Schema
  - c. Conceptual Schema
  - d. Relational Schema

27. There is one Database Model which is based on abstraction of real life entities, their attributes, functions and relationships. Which DB Model out of the following fits this identity

- a. Network Model
- b. Relational Model
- c. Hierarchical Model
- d. Object Oriented Model

28. CREATE TABLE employees (

id	INTEGER	PRIMARY KEY,
first_name	VARCHAR(50)	NULL,
last_name	VARCHAR(75)	NOT NULL,
fname	VARCHAR(50)	NOT NULL,
dateofbirth	DATE	NULL);

The above SQL Statement belongs to:

- a. DDL
- b. DCL
- c. DML
- d. TCL

29. An equivalent representation for the Boolean expression  $\bar{A} + 1$  is :

- a. 0
- b. A
- c. 1
- d.  $\bar{A}$

30. Determine the values of A, B, C, and D that make the sum term  $\bar{A} + B + \bar{C} + D$  equal to zero

- a.  $A = 1, B = 0, C = 0, D = 0$
- b.  $A = 1, B = 0, C = 1, D = 0$
- c.  $A = 0, B = 1, C = 0, D = 0$
- d.  $A = 1, B = 0, C = 1, D = 1$

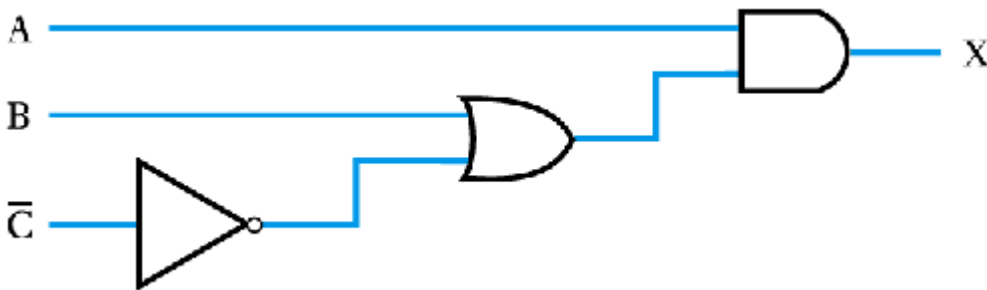


31. Which logic gate has the following truth table?

A	B	C
0	0	0
0	1	1
1	0	1
1	1	1

- a. An exclusive NOR gate.
- b. A two-input OR gate.
- c. A two-input AND gate.
- d. An exclusive OR gate.

32. What Boolean expression describes the output X of this arrangement?



- a.  $X = A + (B.C)$
- b.  $X = A.(B + C)$
- c.  $X = (A.B) + C$
- d.  $X = A + B + C$

33. Which of the following is not a type of Multiplexing?

- a. Time Division Multiplexing
- b. Wavelength Division Multiplexing
- c. Packet Multiplexing
- d. Frequency Division Multiplexing

34. \_\_\_\_\_ provides three bytes to identify Network ID and leaves the remaining one byte available for Host ID.
- a. Class A
  - b. Class B
  - c. Class D
  - d. Class C
35. Microwave transmission is a typical example of \_\_\_\_\_.
- a. Line of sight transmission
  - b. Ground Wave
  - c. Infrared Wave
  - d. Radio Waves
36. Allows program-data independence :
- a. Data Abstraction
  - b. Encryption
  - c. Foreign keys
  - d. Packet Switching
37. \_\_\_\_\_ provide a file-system interface where clients can create, update, read and delete files.
- a. Compute Server Systems
  - b. Peer-to-peer Systems
  - c. File Server Systems
  - d. None of these
38. Which of the following is not a Switching Technique?
- a. Token Switching
  - b. Circuit Switching
  - c. Packet Switching
  - d. Message Switching

39. Which of the following is not a layer in TCP/IP suite?

- a. Application Layer
- b. Session Layer
- c. Data Link Layer
- d. Transport Layer

40. Which of the following is a traditional scheme of IP Addressing?

- a. IPv6
- b. IPv4
- c. Broadcasting
- d. None of these

**(Total 40 Marks)**

### **Part B**

Answer any two (2) questions

#### **Question No. 01**

- (a) Understanding the characteristics of different types of communication media and how they relate to other aspects of a network is necessary for the development of a successful network. Network communication media can be divided into two categories :

- a. Guided (wired) media
- b. Unguided (wireless) media

Briefly describe three types of media from each of the above two categories.

**(6 Marks)**

- (b) Many people use the terms Internet and World Wide Web (WWW), or just the Web, interchangeably, but the two terms are not synonymous. The Internet is made up of various services that provide functionality. It is a type of an infrastructure through which various

services are facilitated. Apart from World Wide Web, list and describe four other services facilitated through the Internet.

(4 Marks)

**(Total 10 Marks)**

**Question No. 02**

- (a) At its lowest level, everything in a computer's memory is represented by numbers – whether the information consists of letters, numerals, punctuation marks, symbols or computer commands. The computer represents these numbers with just two symbols – 0 or 1 – rather than with the ten numeric symbols with which we are familiar from the base 10 number system. In other words, the computer uses binary numbers (0 and 1) instead of decimal numbers. Today, the amount of information stored and transferred through a computer ranges into many millions of bytes.

Starting with 1 byte which comprises of 8 bits, state four (4) such units of higher magnitude and their numerical relationships.

(4 Marks)

- (b) The OS is one of the most fundamental components of a computer. It plays an integral role in the computer operations, and is as important to know about as the computer itself. The purpose of an Operating System is to organize and control hardware and software so that the device it lives in behaves in a flexible but predictable way. List 6 of the core tasks of an Operating System :

(6 Marks)

**(Total 10 Marks)**

### **Question No. 03**

- (a) At the heart of database modeling is the idea of designing a database structure that defines how stored information can be accessed, categorized and manipulated. It's the very foundation of a database design effort, and the specific data model employed drives the database diagram and overall development endeavors. There are 4 common Database models that are in use. List these four (4) models.

(4 marks)

- (b) A Truth Table is a breakdown of a Boolean function by listing all possible values the function can attain. Construct the Truth Table for the following Boolean function :

$$F(x, y, z) = x\bar{z} + y$$

(6 marks)

**(Total 10 Marks)**