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GCE AL ICT 2023 **REVISION**  
MERIT TEST **PAPER** | PACK 03

1. The service which is not provided by internet.

- a) World Wide Web (WWW)
- b) Web browsers
- c) File Transfer Protocol (FTP)
- d) IP telephones
- e) Telnet

2. In which layer the data encryption is done in OSI reference model

- a) Application Layer
- b) Presentation Layer
- c) Session Layer
- d) Data link Layer
- a) Network Layer

3. Optical disks are used to store data in an optical media. Select the correct statement about Optical disks

- a) Data can be rewritten many times in DVD RAM compared to DVD RW
- b) Capacity of CD-R is in the range of 4.7-9.4 GB
- c) The capacity of DVD is greater than the capacity of Blue ray
- d) Ultra violet rays can be used to write data in optical disks
- e) Function of CD-ROM is same as the function of RAM

4. Which of the following statement is correct about scheduling?

- a) Short term schedulers have the lowest speed comparing with others
- b) Long term scheduler is a process swapping scheduler
- c) Long term scheduler is a job scheduler
- d) Short term scheduler selects the processes from the pool and loads into the memory for execution
- e) Midterm scheduler is a CPU scheduler.

5. If the network address given as 172.16.0.0/19. How many subnets and hosts can be connected

- (a) 07 subnets and 30 computers to each subnet
- (b) 08 subnets and 8190 computers to each subnet
- (c) 08 subnets and 2046 computers to each subnet
- (d) 07 subnets and 2046 computers to each subnet
- (e) 08 subnets and 30 computers to each subnet

6. Construct the **EER** diagram for the given scenario.

The software development organization keeps track of its employees, departments and projects. The organization is arranged by departments. Each department has a department name and ID number. A department controls a number of projects. Each project has a project name, PID to identify the project and project type. Each project is using zero or more parts supplied by any number of suppliers. One supplier can supply many parts to many projects, but must supply at least one part to a project. The projects are subdivided into internal and external funded projects. Funded projects are subdivided by foundation and corporation. Each foundation and corporation associated with the organization and is tracked by account department. Each account department stores a name, number, contract and account type. The employee's name, social security number and employee type are stored. An employee may be assigned to a department and may work on several projects, controlled by more than one department. The dependent's name and gender are stored for each employee. Most of the employees are subdivided into three major employee types- research, technical and testing

7. Consider the following statement about the data communication and computer networks. Fill the blanks in using the words given below in the list.

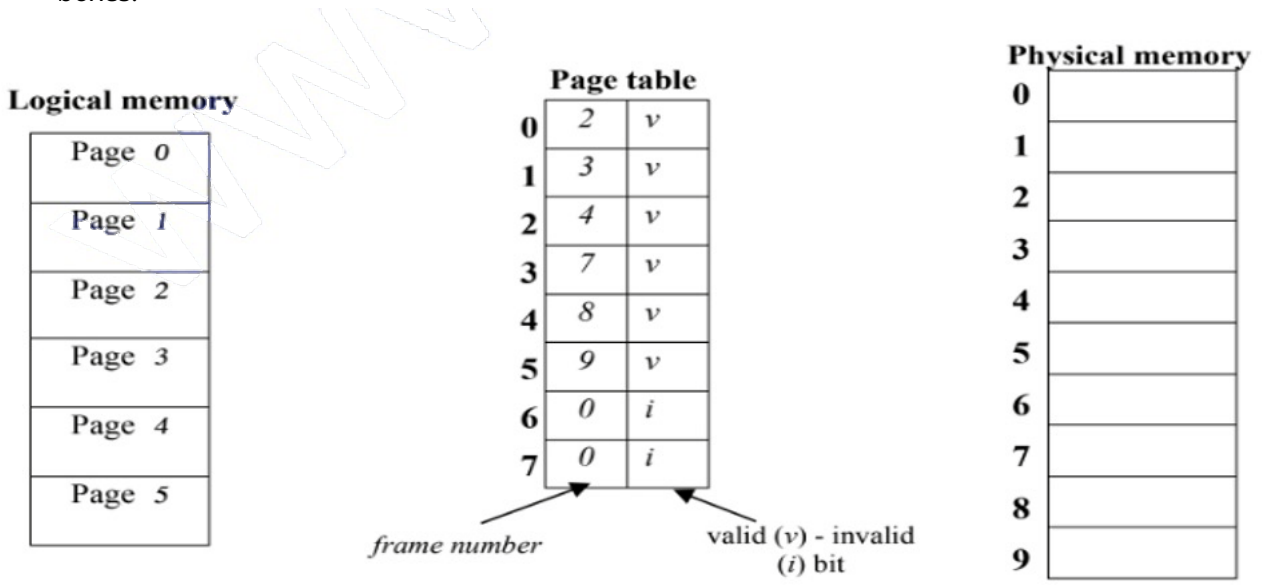
**List** – { Packet switching, Circuit switching, Modulation, Transport, Application, Parity bit, Datalink, Bandwidth }

- a. ....is the technique used to send information by modifying the basic characteristics such as frequency, amplitude and phase, of a modulating signal by attaching it to a higher frequency signal (carrier signal), producing a modulated signal.
- b. .... is used as the simplest form of error detecting code.
- c. When a message is generated at the source, it is broken down into smaller units called packets. Each packet is assigned unique information to identify itself, switching information is added in the header of each packet and the transmitted independent of other packets via different paths. It is called.....
- d. In OSI reference model, .....layer consist of two sub layers such as LLC and MAC.
- e. The frequency difference of two terminals in a data channel is called its.....
- f. .... is responsible for process-to-process packet delivery.

8. Write down the benefit of using variable length subnet mask (VLSM) rather than using of fixed length subnet mask (FLSM) while allocating IP addresses in a computer network.

9. Consider the paging model given below for the logical and physical memories in an operating system. Pages are to be mapped to physical memory.

- i. In the below diagram, show memory mapping by writing pages of physical memory in appropriate boxes.



- (a) What is the role of page table?
- (b) Briefly describe two reasons why a newly developed software which is implemented in user environment should be included in the maintenance phase?
- (c) Briefly explain about integrating testing? And by whom it is done?

10. Consider the following Employee table

EmpNo	EmpName	Designation	Department	BasicSalary
E001	Albert	Manager	Fin	51000
E002	Einstein	Clerk	Fin	33000
E003	Isaac	Clerk	Acc	30000
E004	Newton	Engineer	Prod	50000

- (a) Isaac has become the assistant manager from clerk and his salary is increased to **45000**. Write a sql statement to update the above table?
- (b) Get the details of the employee numbers of each department and total basic salary? Write a sql statement to obtain details from the above table?
- (c) Get the details of the employee EmpName and Designation who are in Department **FIN**? Write a sql statement to obtain details from the above table?

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MSc.IT, BEng Networking,  
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END OF THE PAPER