



தேசிய வெளிக்கள நிலையம் தொண்டைமானாறு

இரண்டாம் தவணைப் பரீட்சை - 2024

National Field Work Centre, Thondaimanaru.

2nd Term Examination - 2024

தகவல் தொடர்பாடல் தொழினுட்பவியல்
ICT

Gr -12 (2025)

Marking
Scheme

PART - I

01	2	11	1	21	3	31	5
02	5	12	3	22	1	32	4
03	4	13	3	23	4	33	1
04	5	14	5	24	5	34	4
05	4	15	2	25	4	35	4
06	2	16	2	26	3	36	3
07	3	17	4	27	2	37	2
08	1	18	4	28	3	38	5
09	5	19	4	29	5	39	1
10	1	20	5	30	4	40	5

40*1=40

Part - II (A)

01)

1.

SRAM	DRAM
Low Access Speed	High Access Speed
High Density	Low Density
Need to be Refresh	No need
Less Transistor used for a bit	More Transistor used for a bit
Mother board	Cache or between CPU and Main Memory
High Capacity	Low Capacity

(2)

2. 1st Gen- Vacuum Tubes, 2nd Gen - transistors, 3rd Gen- IC, 4th Gen-VLSI, 4th Gen- ULSI (2)

3. Random Access Method- RAM , Sequential Access Method- Mg Tape (2)

4.

Memory	Physical Size	Access Time	Speed	Capacity	Cost per bit
Register	1	1	4	1	4
Cache	2	2	3	2	3
Secondary Sto	4	4	1	4	1
RAM	3	3	2	3	2

(4*1=4)

02) A

01. +14 2's complement= 00001110

-3 2's complement= 11111101

02. 00001110

+11111101

100001011 – Discard the MSB (1) decimal value is = 11_{10} ($2 \times 2 = 4$)

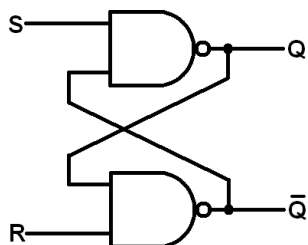
B

01.

A	
B	
1	1
1	0

02. $A' + B'$

03.



($2 \times 3 = 6$)

03.A.

1. PCB- PCB is a data structure maintained by operating system for every process. It stores all the information about process

2. Memory swapping- Swapping is an activity of swapping a process temporarily to secondary memory from the main memory.

B. 1) 1- New state 2- Ready/Suspend 3- Ready 4-Running
5- Blocked/Suspend 6-Blocked

2) 1,2

04. A

01.MAC- 80-2B-F9-04-40-17

02.Logical Address- 192.168.1.170

03. DNS provides directory lookup service for given URL's and the web addresses.
It converts the Domain name into IP address

B

01. Application

Presentation

Session

Transport

Network

Data Link

Physical Layer (Top to bottom 7 to 1)

02. Noise, Attenuation, Distortion,

03. Ping- it is used to determine whether a device (computer) on a network is connected or not. /
to test the ability of source computer to reach a specified destination computer.

Part - II (B)

01)

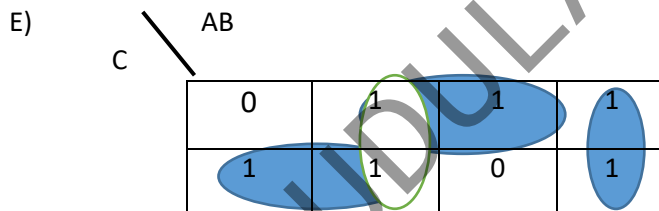
A. $(A+B).(A+C) = A+BC$

A	B	C	(A+B)	(A+C)	(A+B).(A+C)	BC	A+BC
0	0	0	0	0	0	0	0
0	0	1	0	1	0	0	0
0	1	0	1	0	0	0	0
0	1	1	1	1	1	1	1
1	0	0	1	1	1	0	1
1	0	1	1	1	1	0	1
1	1	0	1	1	1	0	1
1	1	1	1	1	1	1	1

B) $(A+B).(A+C)$
 $A.A+A.C+A.B+B.C$
 $A(1+C)+A.B+B.C$
 $A(1+B)+B.C$
 $A+B.C$

C) $A'+A'B+AC$
 $A'(1+B)+AC$
 $A'+AC$
 $A'+C$

D) $A'C+B'C+AB'$
 $A'BC + A'B'C + ABC' + A'BC' + AB'C + AB'C'$



$A'C+A'B+BC'+AB'$

(2*5=10)

02.

A) 1. Contiguous allocation, Linked allocation, Indexed allocation (2)
 2. Swap process (1)
 3. Preemptive Schedule, Non- Preemptive schedule (1)
 4. Fragmentation is the unintentional division of Disk into many small free areas that cannot be used effectively due to scattered storage of file fragments. (2)

B)

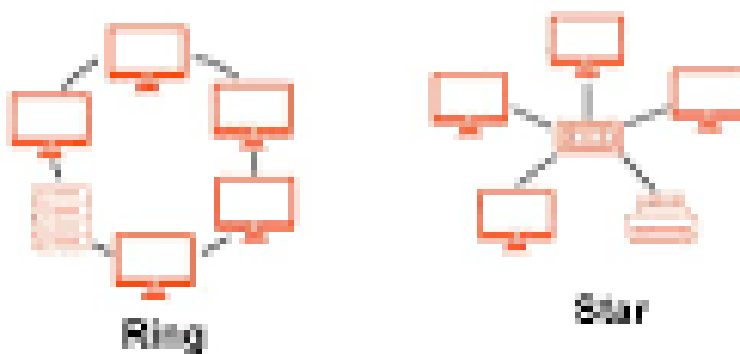
1. 2^{20} Frames (2)
 2. 4kb (1)
 3. 2^{21} Pages (1)

03.

- A) Sender /Source
Receiver/Destination
Transmission medium
Message

(1)

B)



STAR	RING
all devices connected to a central device	each devices connects 2 devices
no restrictions for data traveling	data travel in a direction
high cost	low cost
failure in central node affect the network	failure in one device affect the network

(3)

C)

01. $2^3=8$.
02. $2^{13} - 2$ hosts
03. 160.100.192.0
04. 160.100.223.255
05. 160.100.192.1 - 160.100.223.254

(1)

(1)

(1)

(1)

(2)