Degree (Part-I) (Vocational) Examination, 2020

(Honours)

INFORMATION TECHNOLOGY

[Paper : Second]

[PPU-D-I(V)H-IT-2]

Time : Three Hours]   [Maximum Marks : 75]

Note : All the questions are of equal value. Answer **five** questions, selecting atleast one from each group.

GROUP-A

1. Write short notes on following terms/keywords :

    (a)   E-R Diagram

    (b)   Foreign Key

    (c)   Functional Dependency

2. (a) Describe major advantages of a database management system over file-processing system.

   (b) Explain the difference between a weak and a strong entity set with a suitable example.

3. (a) Describe the Codd's twelve rules.

   (b) What are the differences between 3rd NF and BCNF ?

GROUP-B

4. Write short notes on the following terms/keywords :

   (a) Multi-programming

   (b) Deadlock

   (c) Internal fragmentation

5. (a) What is the difference between a Page and a Segment ? Describe the Simple Paging technique.

   (b) List and briefly describe three File Organization methods.

4005-2/300

6. An operating system uses pre-emptive Shortest Remaining Time First (SRTF) scheduling algorithm. Consider the following set of processes with their arrival times and CPU burst times. Compute the average turnaround time and average waiting time of the processes.

Process	Arrival Time	Burst Time
P1	0	12
P2	2	4
P3	3	6
P4	8	5

GROUP-C

7. Write short notes on the following terms/keywords :

   (a)   Capacitor

   (b)   Tunnel Diode

   (c)   Semiconductor

8.   (a)   What are the differences between Intrinsic and Extrinsic semiconductors ?

     (b)   Describe Halfwave and Fullwave rectifier with and without filter.

4005-2/300   (3)   [P.T.O.]

(a) What are the differences between Unijunction transistor and Photo transistor ?

(b) Describe the efficiency distortion in amplifier along with their merits and demerits.