

[4]

SECTION 'C'

4 × 10 = 40

Long Answer questions (Word limit 400-450 words.)

Q. 1. What is the function of memory in computer? Explain the classification and characteristics of memories.

OR

What is computer networking? Explain different types of networks in detail.

Q. 2. What is Intel 8085 microprocessor? Draw and explain the schematic diagram of Intel 8085.

OR

Explain the requirement of a program counter stack pointer and status flags in the architecture of Intel 8085 microprocessor.

Q. 3. Write an assembly language program to find the largest number in a data array?

OR

Explain what operation is performed when the following instruction are executed :

DAD rp, DAA, CMP r, CMP M, CMA, RAL, RAR, PUSH rp, and POP rp, LXI rp, LDA addr, LHLD addr, STA addr.

Q. 4. How light propagation takes place in optical fiber? Explain with ray diagram, the light propagation in graded Index fibre.

OR

What is communication? Explain optical fiber communication with the help of structure. Also explain different types of optical fibers along with advantages and disadvantages.

[1]

ROLL NO.....

PHY. 404/21

IV SEMESTER EXAMINATION, 2021

M.Sc. (PHYSICS)

PAPER-IV

ELECTRONICS

TIME: 3 HOURS

MAX.- 80

MIN.- 16

Note: The question paper consists of three sections A, B & C. All questions are compulsory.

Section A- Attempt all MCQ questions

Section B- Attempt one question from each unit.

Section C- Attempt one question from each unit.

SECTION 'A'

2 × 8 = 16

Multiple Choice Questions

- The memory addressing capacity of a CPU depends on the width of its -
 - Control Bus
 - Data Bus
 - Address Bus
 - Floppy Disks
- The word length of Super Computers are of the range -
 - 32- bit
 - 48-64 bit
 - 8- bit
 - 64 or 96 -bit
- In the instruction of the 8085 microprocessor, how many types are present?
 - One or Two
 - One, Two or Three
 - One only
 - Two or three

[2]

4. Which one of the following addressing techniques is not used in 8085 microprocessor?
- (a) Register (b) Immediate
(c) Register indirect (d) Relative
5. In a microprocessor, the address of the new next instruction to be executed is stored in -
- (a) Stack pointer (b) Address latch
(c) Program Counter (d) General Purpose Register
6. Following is a 16-bit register for 8085 microprocessor -
- (a) Stack pointer (b) Accumulator
(c) Register B (d) Register C
7. Which is the most beneficial index profile in single mode fibers?
- (a) Step index (b) Co-axial fiber
(c) Graded index (d) Step and Graded index
8. ----- are not used nowadays for optical fiber communication system.
- (a) Co-axial cable (b) Multi-mode fibre
(c) Single-mode fibre (d) Multimode graded index fibres

[3]

4 × 6 = 24

SECTION 'B'

Short Answer Type Questions

- Q.1.** What are the essential components of a digital computer? Discuss the function of each component.

OR

What do you understand by –

- (a) main memory
(b) secondary memory
(c) cache memory

- Q.2.** What are registers? Explain different registers used in Intel 8085 microprocessor.

OR

Draw and explain the timing diagram for fetch operation?

- Q.3.** Classify 8085 instruction in various groups. Give examples of instructions for each group.

OR

Explain various types of addressing modes of Intel 8085 with suitable examples.

- Q.4.** What is optical fibre? Explain its structure significance in communication.

OR

What is the principle behind optical fibre communication along with Snell's law.