OR

What do you understand by timing diagram. Explain timing diagram for Op-code fetch cycle and memory write cycle.

Q. 3. Explain arithmetic group instruction with the help of example.

OR

Write a program for the smallest number in data array.

Q. 4. Explain cut-off parameter and number of modes.

OR

What do you understand by splicing and connector. Describing the types and write the difference between them.

PHY. 404/22

IV SEMESTER EXAMINATION, 2022
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' $\boxed{2 \times 8 = 16}$
Multiple Choice Questions

1. In which of the topology each device has a dedicated point to point link to the central controller?

   (a) Mesh   (b) Bus   (c) Ring   (d) Star

2. Memory that loses its contents when power is lost is -

   (a) Random   (b) Volatile   (c) Non-volatile   (d) Static

3. Which fibre is preferred for long distance communication?

   (a) Step index single mode fibre   (b) Step index multimode fibre

   (c) Graded index multimode fibre   (d) Graded index fibre

4. The first Machine cycle of an instruction is always-

(a) Memory read cycle   (b) Fetch cycle

(c) I/O read cycle   (d) Memory write cycle

5. Address of stored data is not defined in the given instruction in -

(a) Direct addressing mode   (b) Indirect addressing mode

(c) Register addressing mode   (d) Implicit addressing mode

6. In the structure of fibre optics cable, refractive index of the core is always --------- the refractive index of cladding.

(a) Less than   (b) Equal to

(c) Greater than   (d) None of above

7. Which of the following registers holds the address of an instruction -

(a) DR   (b) PC   (c) IR   (d) CPU

8. Assembly language is a ---------- programming language.

(a) Low level   (b) Mid Level

(c) High level   (d) None of the above

SECTION 'B' $4 \times 6 = 24$

Short Answer Type Questions

Q.1. Explain hard disk.

OR

What do you understand by architecture of Digital Computer?

Q.2. What do you understand by ALU, Explain its operation.

OR

Explain fetch operation and machine cycle.

Q.3. What do you understand by addressing modes, explain its types.

OR

Write a program for addition of two 8 bit numbers.

Q.4. What do you understand by total internal reflection? Explain the working of optical fibre on the basis of total internal reflection.

OR

Explain Halide fibre in detail.

SECTION 'C' $4 \times 10 = 40$

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

Q. 1. Explain semiconductor memory. Write the difference between RAM and ROM.

OR

What do you understand by LAN topology? Star and Ring which topology is best and why?

Q. 2. Explain Pin configuration of intel 8085.