Reg. No ..... Name **25P336**

M. Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER 2025

SEMESTER 3 : PHYSICS

COURSE : **24P3PHYT11EL : MICRO ELECTRONICS AND SEMICONDUCTOR DEVICES**

(For Regular - 2024 Admission)

Time : Three Hours Max. Weights: 30

PART A

Answer any 8 questions **Weight: 1**

1.	What is the function of RD and WR signal on memory chip?	(A)
2.	Comment on PSW Register of 8051 microcontroller.	(An)
3.	What is a semiconductor heterojunction?	(An)
4.	What is meant by microarchitecture of 8086?	(E)
5.	Comment on flags that are stored in Program status word of 8051 microcontroller.	(E)
6.	Describe the function of QS0 and QS1 in 8086.	(An)
7.	Compare the knee voltage of a Schottky diode and that of a semiconductor diode.	(E)
8.	Mention the significance of BIU and EU in 8086 MPU.	(E)
9.	What is memory? Explain latch as a storage element.	(A)
10.	Describe the function of (i) RESET IN and (ii) RESET OUT signal of 8085 microprocessor.	(E)

(1 x 8 = 8)

PART B

Answer any 6 questions **Weights: 2**

11.	Comment on flag registers of 8086 microprocessor.	(An)
12.	Describe the segment registers in 8086 microprocessor.	(E)
13.	Explain microprocessor based system with bus architecture.	(An)
14.	Comment on based addressing mode and based indexed addressing mode in 8086 microprocessor with examples.	(An)
15.	Briefly explain different jump instructions of 8051.	(U)
16.	Describe the characteristics of static RAM.	(A)
17.	With a neat diagram explain the bus structure of INTEL 8085	(A)
18.	Comment on the two 16-bit registers of 8051 microcontroller.	(A)

(2 x 6 = 12)

PART C

Answer any 2 questions **Weights: 5**

19.	With the help of pin description, explain the architecture of 8051 microcontroller.	(An)
20.	Explain the different types of I/O operations in an 8085 microprocessor.	(A)
21.	Examine the concept of two dimensional electron gas and discuss about hetero-structure semiconductors.	(E)

22. With a neat diagram explain the internal architecture of 8086 microprocessor. (A)

(5 x 2 = 10)

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.

Cognitive Level (CL): Cr - CREATE; E - EVALUATE; An - ANALYZE; A - APPLY; U - UNDERSTAND; R - REMEMBER;