

Model Question Paper

(Model III)

MAHATMA GANDHI UNIVERSITY

IV Semester B.Sc. Programme Examination 20...

**ELECTRONIC EQUIPMENT MAINTENANCE**

**PH4B51U- APPLICATIONS OF MICROPROCESSORS**

Instructions:

1. Answer all questions in part A. This contains 4 bunches of 4 objective questions. For each bunch, grade A will be awarded if all the 4 answers are correct, B for 3, c for 2, d for 1 and E for 0.
2. Answer any 5 questions from part B, any 4 from part C and any 2 from part D.
3. Candidates can use non programmable calculators/tables

Time: Three hours

Total weight : 25

**PART A**

**Answer *all* questions**

**Each bunch of four questions carries a *weightage* of one**

***Bunch 1***

1. The process of establishing physical connection between microprocessor and memory or I/O device is -----.
2. When a 2KB RAM is interfaced to 8085 how many address lines are required to address it?
3. The memory address of the last location of a 8KB memory is FFFFH, it's starting address is -----.
4. In memory mapped I/O scheme there is only ----- address space.

***Bunch 2***

5. Call location for the interrupt RST 5.5 is  
a) 0024      b)003C      c)0034      d)002C
6. Which is not a control signal for memory or I/O device  
a) MEMR      b) MEMW      c) IOR      d) ALE
7. In 8255 there are ----- 8 bit ports  
a) 8      b) 2      c) 3      d) 4

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8. If the memory chip size is 256x1 bits, how many chips are required to make up 1KB of memory?  
a) 64   b) 32   c) 12   d) 4

**Bunch 3**

*State whether the following statements are True or False:*

9. An input port is a place for uploading data.  
10. INTEL 8255 is an interrupt controller.  
11. When a subroutine is called the address of the instruction following the CALL instruction is stored in the program counter.  
12. The instruction RST 7.5 is a hardware interrupt.

**Bunch 4**

13. The process of allocating the required number of memory locations for a particular memory device in the total memory span is -----  
14. Subroutine called by the interrupt is -----  
15. The 8085 has ..... interrupts.  
16. The size of data bus of 8085 is ----- bits.

(Weightage 4 x 1 = 4)

**PART B**

**Answer any five questions**

**Each question carries a weightage of one**

17. What is the difference between a microprocessor and microcomputer?  
18. List four advantages of microprocessor based system design.  
19. What happens to the value of stack pointer of 8085 when POP instruction is executed?  
20. When an interrupt request is received, what happens to the program execution?  
21. Explain memory mapping.  
22. Explain the differences between programmed data transfer and interrupt driven data transfer.  
23. If an O/P and I/P port can have the same address, how does the 8085 differentiate them?  
24. Discuss the uses of interrupts.

(Weightage 5 x 1 = 5)

**PART C**

**Answer *any four* questions**  
**Each question carries a *weightage* of *two***

25. Sketch and explain the memory organisation of a microcomputer.
26. Write the control word format of 8255.
27. What is meant by hand shake signals? Why are they used?
28. Explain interfacing 8085 with 2KB RAM.
29. How does address decoding take place in a microprocessor?
30. Explain keyboard interfacing.

(Weightage 4 x 2 = 8)

**PART D**

**Answer *any two* questions**  
**Each question carries a *weightage* of *four***

31. With necessary diagrams explain how a stepper motor can be interfaced to 8085.
32. Explain the use of microprocessor in temperature monitoring
33. Explain interfacing? Draw the circuit diagram to interface a 2KB RAM and 4KB ROM to 8085.

(Weightage 2 x 4 = 8)

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