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MAR_APR 2026 SUMMER EXAMINATION

1154 B.Tech. CBCS

Sub. Name: Microprocessor and Microcontrollers

Sub. Code: 81647/81857

Day and Date: Wednesday,27-05-2026 **Total Marks: 70**

Time: 10:30 AM To 01:00 PM

Instructions: **1. All questions are compulsory**
2. Draw neat labelled diagrams wherever necessary
3. Figures to the right indicate full marks

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Q1) All questions are compulsory. **[14]**

i. In 8085, 16-bit address bus, which can address upto?

A. 16KB

B. 32KB

C. 64KB

D. 128KB

ii. PSW in 8085 is combination of _____.

A. Accumulator and Flag Register

B. Accumulator and B Register

C. PC and SP

D. Flag register only

iii. How many bytes of RAM is present in 8051 based microcontrollers?

A. 8 bytes

B. 32 bytes

C. 16 bytes

D. 128 bytes

iv. Which of the following comes under the indexed addressing mode?

A. MOVX A, @DPTR

B. MOVC @A+DPTR,A

C. MOV A,R0
D. MOV @R0,A

v. The bit which is used to double the Baud rate in serial communication of 8051 is ____

A. REN

B. SMOD

C. RI

D. SM0 and SM1

vi. From the below _____is not a output device

A. Seven Segment Display

B. DAC

C. Keyboard

D. Stepper motor

vii. To initialize Serial Communication in Mode 1 following syntax to be used

A. SCON=0x40;

B. SCON=0x80;

C. SCON=0x00;

D. SCON=0x0C0;

Q2) Solve any two **[14]**

a. Explain de-multiplexing of Address/Data bus in 8085. **[7]**

b. Explain Reset and Clock Circuit in 8085. **[7]**

c. Draw and Explain Timing diagram of Instruction MOV A,B **[7]**

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Q3) Solve any two **[14]**

a. Explain Stack related Instruction in 8085. **[7]**

b. Interface 2Kx8 ROM to 8085 using 2KX8 ROM Ic. Find address map also **[7]**

c. Explain CALL and RET instruction in 8085. **[7]**

Q4) Solve any two **[14]**

a. Explain Addressing modes of 8051 with one example each. **[7]**

b. Draw and Explain TCON SFR in 8051. Write instruction to start Timer 0 **[7]**

c. Draw and Explain PCON register in 8051.Explain Idle mode of 8051. **[7]**

Q5) Solve any two **[14]**

a. Draw the interfacing diagram of a stepper motor to 8051. Also write an assembly language program to rotate the motor clockwise in full-stepping mode. **[7]**

b. Write an embedded C program to read Port 0, complement it and send the result on PORT 2. **[7]**

c. Write an embedded C program to convert analog input applied to channel no 2 to its respective digital form when ADC is connected to 8051. **[7]**

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End Of Question Paper

Important Note for Chief Exam Officer / SRPD Coordinator / Sr Supervisor/ Student -
This Question Paper may be distributed for following Subjects as common code.
सदरची प्रश्नपत्रिका खालील विषयांकरिता वितरित करता येईल.

1] (101) Bachelor of Engineering (81857) Microprocessor and Microcontrollers Part 3 SEM 6

2] (1154) B.Tech. CBCS (81647) Microprocessor and Microcontrollers Part 3 SEM 6