P-III/(1+1+1)/H/20(N)

2020

COMPUTER SCIENCE (Honours)

Paper : VII - A & B

(New Syllabus)

Full Marks : 100 Time : Four Hours

Important Instructions for Multiple Choice Question (MCQ)

- Write Subject Name and Code, Registration number, Session and Roll number in the space provided on the Answer Script.

  Example : Such as for Paper III-A (MCQ) and III-B (Descriptive).

  Subject Code : | III | A | & | B |

  Subject Name : | |

- Candidates are required to attempt all questions (MCQ). Below each question, four alternatives are given [i.e. (A), (B), (C), (D)]. Only one of these alternatives is 'CORRECT' answer. The candidate has to write the Correct Alternative [i.e. (A)/(B)/(C)/(D)] against each Question No. in the Answer Script.

  Example — If alternative A of 1 is correct, then write :
  1. — A

- There is no negative marking for wrong answer.

মাল্টিপল চয়েস প্রশ্নের (MCQ) জন্য জরুরী নির্দেশাবলী

- উত্তরপত্রে নির্দেশিত স্থানে বিষয়ের (Subject) নাম এবং কোড, রেজিস্ট্রেশন নম্বর, সেশন এবং রোল নম্বর লিখতে হবে।

  উদাহরণ — যেমন Paper III-A (MCQ) এবং III-B (Descriptive)।

  Subject Code : | III | A | & | B |

  Subject Name : [ ]

- পরীক্ষার্থীদের সবগুলি প্রশ্নের (MCQ) উত্তর দিতে হবে। প্রতিটি প্রশ্নে চারটি করে সম্ভাব্য উত্তর, যথাক্রমে (A), (B), (C) এবং (D) করে দেওয়া আছে। পরীক্ষার্থীকে তার উত্তরের স্বপক্ষে (A) / (B) / (C) / (D) সঠিক বিকল্পটিকে প্রশ্ন নম্বর উল্লেখসহ উত্তরপত্রে লিখতে হবে।

  উদাহরণ — যদি **1** নম্বর প্রশ্নের সঠিক উত্তর **A** হয় তবে লিখতে হবে :

  1. — A

- ভুল উত্তরের জন্য কোন নেগেটিভ মার্কিং নেই।

Paper Code : VII-A

Full Marks : 20 Time : Thirty Minutes

Choose the correct answer.

Each question carries 2 marks.

1. In 8085 microprocessor, why is READY signal used?

   (A) To indicate to user that the microprocessor is working and is ready for use

   (B) To provide proper WAIT states when the microprocessor is communicating with a slow peripheral device

   (C) To slow down a fast peripheral device so as to communicate at the microprocessor's device

   (D) None of the above

2. Which one of the following is not a vectored interrupt?

   (A) TRAP

   (B) INTR

   (C) RST 7.5

   (D) All of the above

3. What is SIM?

   (A) Select interrupt mask

   (B) Sorting interrupt mask

   (C) Set interrupt mask

   (D) None of these

4. The address of the next instruction to be executed is stored in —

   (A) Stack Pointer

   (B) Address Latch

   (C) General Purpose Register

   (D) Program Counter

5. Communication between a computer and a keyboard involves _____ transmission.

   (A) Full-duplex

   (B) Half-duplex

   (C) Simplex

   (D) None of the above

6. Which topology requires a multipoint connection?

   (A) Mesh

   (B) Star

   (C) Ring

   (D) Bus

7. As the data packet moves from the upper to the lower layers, headers are _____.

   (A) Removed

   (B) Added

   (C) Rearranged

   (D) Modified

8. The effectiveness of the cache memory is based on the property of _____.

   (A) Locality of reference

   (B) Memory localization

   (C) Memory size

   (D) None of the mentioned

9. The addressing mode used in the instruction PUSH B is

   (A) Direct

   (B) Register

   (C) Register indirect

   (D) Index

10. The BUS busy line is used _____.

   (A) To indicate the processor is busy

   (B) To indicate that the BUS master is busy

   (C) To indicate the BUS is already allocated

   (D) None of the above

2020

COMPUTER SCIENCE (Honours)

Paper : VII - B

(New Syllabus)

Full Marks : 80 Time : Three Hours Thirty Minutes

The figures in the margin indicate full marks.

Answer any *five* questions taking atleast *one* question from each group. 16×5=80

Group - A

1. (a) Write a program in 8085 assembly language that finds the largest element from a set of data elements. Memory location 7050H holds the number of elements and the data elements are stored onwards.

   (b) If total number of element is 5 (five), then find the execution time for the above problem?

   (c) Specify the register contents and the flag status as the following instructions are executed.

A	B	S	Z	CY
XX	XX	X	X	X

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MVI A, 3DH
MVI B, 5BH
ORA B
HLT
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6+5+5

2. (a) What is PSW? Draw the timing diagram of the instruction MOV B, A.

   (b) Compare CALL and PUSH instructions.

   (c) How does 8085 microprocessor differentiate between opcode and data?

2+5+5+4

Group - B

3. (a) What is locality of reference? Discuss the advantages and disadvantages between different Cache memory writing policies.

Turn Over

(b) Draw the flowchart for Booth's multiplication algorithm. Hence perform (–5) × (3). (2+5)+(5+4)

4. (a) Explain DMA controller with diagram.

(b) Compare between daisy chaining and polling.

(c) Differentiate between hardwired and micro-programmed control unit. 6+4+6

Group - C

5. (a) What is Network topology? Discuss two different types of Network Topologies with their advantages and disadvantages.

(b) Describe the functions of Network layer in OSI model.

(c) Discuss the channel capacity of noiseless and noisy channels. 2+6+4+4

6. Write short notes on (any *four*) : 4×4=16

(a) WWW

(b) Protocol and Standards

(c) FDM

(d) DNS

(e) Modem

(f) LAN