2020

COMPUTER SCIENCE (General)

Paper Code : I - A & B

[New Syllabus]

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 : I - A

Full Marks : 30   Time : Thirty Minutes

Choose the correct answer.

Each question carries 1.5 marks.

1. What is flip-flop?

   (A) Sequential Circuit

   (B) 1-bit Memory

   (C) All of the above

   (D) None of the above

2. A CPU contains —

   (A) a card reader and a printing device

   (B) an analytical engine and a control unit

   (C) a control unit and an arithmetic logic unit

   (D) an arithmetic logic unit and a card reader

3. A Decoder is a —

   (A) Combinational circuit

   (B) Sequential Circuit

   (C) All of the above

   (D) None of the above

4. Which of the following statements is true?

   (A) Minicomputer works faster than Microcomputer

   (B) Microcomputer works faster than Minicomputer

   (C) Speed of both the computers is the same

   (D) The speeds of both these computers cannot be compared with the speed of advanced

5. What is MUX?

    (A) A Combinational Circuit

    (B) Data Selector Circuit

    (C) All of the above

    (D) None of the above

6. ALU is —

    (A) Arithmetic Logic Unit

    (B) Array Logic Unit

    (C) Application Logic Unit

    (D) None of the above

7. Example of CPU registers —

    (A) PC

    (B) MAR

    (C) MBR

    (D) All of the above

8. WAN stands for —

    (A) Wap Area Network

    (B) Wide Area Network

    (C) Wide Array Net

    (D) Wireless Area Network

9. Which of the following is a part of the Central Processing Unit?

    (A) Printer

    (B) Key board

    (C) Mouse

    (D) Arithmetic & Logic unit

10. Protocol used in Email —

   (A) SMTP

   (B) FTP

   (C) HTTP

   (D) None of the above

11. 2's Complement of 1010 1100?

   (A) 0101 0100

   (B) 0101 0011

   (C) 0110 0010

   (D) None of the above

12. What does DMA stand for?

   (A) Distinct Memory Access

   (B) Direct Memory Access

   (C) Direct Module Access

   (D) Direct Memory Allocation

13. Example of Universal Gate —

   (A) NAND

   (B) NOR

   (C) All of the above

   (D) None of the above

14. Example of Non-weighted code?

   (A) Excess-3 code

   (B) Gray code

   (C) All of the above

   (D) None of the above

15. Who designed the first electronics computer – ENIAC?

   (A) Van-Neumann

   (B) Joseph M. Jacquard

   (C) J. Presper Eckert and John W Mauchly

   (D) All of the above

16. Father of "C" programming language —

   (A) Dennis Ritchie

   (B) Prof John Keenly

   (C) Thomas Kurtz

   (D) Bill Gates

17. Which of the following are input devices?

   (A) Keyboard

   (B) Mouse

   (C) Card reader

   (D) All of the above

18. _____ translates and executes program at run time line by line —

   (A) Compiler

   (B) Interpreter

   (C) Linker

   (D) Loader

19. 1 Byte =?

   (A) 8 bits

   (B) 4 bits

   (C) 2 bits

   (D) 9 bits

20. BIOS stand for —

    (A) Basic Input Output system

    (B) Binary Input output system

    (C) Basic Input Off system

    (D) All of the above

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2020

COMPUTER SCIENCE (General)

Paper Code : I - B

[New Syllabus]

Full Marks : 70   Time : Two Hours Thirty Minutes

The figures in the margin indicate full marks.

Five questions to be answered, taking at least *one* and at-most *two* questions from each groups.   14×5=70

Group - A

1. (a) Distinguish between Compiler and Interpreter.

   (b) Explain basic features of 4th generation language.

   (c) What is volatile memory — explain with example.

   (d) Write advantages and disadvantages of low-level and high-level languages.

   4+4+4+2=14

2. (a) Write De Morgan's Theorem.

   (b) Distinguish between System Software and Application Software.

   (c) Draw a flowchart for calculating GCD of two positive numbers.

   (d) Write the advantages of optical fiber cable.   2+4+4+4=14

Group - B

3. (a) What is the function of a cache memory?

   (b) Briefly discuss two techniques for accessing cache memory.

   (c) Briefly state the characteristics of Primary and Secondary devices.

   (d) Differentiate between CISC and RISC processor.   2+4+4+4=14

4. (a) What is the difference between static and dynamic RAM?

   (b) Describe Instruction Cycle?

   (c) Explain the functionalities of DMA.   5+4+5=14

Group - C

6. (a) Differentiate between Encoder and Decoder.

   (b) Design a Full Adder circuit using basic gates.

   (c) Differentiate between Combinational circuit and Sequential circuit.

                                                              5+4+5=14

7. (a) What is parity checker?

   (b) What is Master Slave JK flip-flop?

   (c) Differentiate between Synchronous and Asynchronous Counter.

   (d) What is magnitude comparator?   2+4+5+3=14

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