

B.C.A Semester - 2 (CBCS) Examination
March/April – 2024 (As Per Syllabus Year-2018)
Computer Organization and Architecture (CORE)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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- Que.1(A) Answer the following: (03)
- (1) NAND is combination of ____ and ____ gates.
 - (2) Not gate is also known as ____ gate.
 - (3) Full form of SOP is ____.
- Que.1(B) Answer the following: (Any Two) (06)
- (1) Explain Complement of function in detail.
 - (2) Explain K-Map with rules in detail.
 - (3) Explain minterms in details.
 - (4) Explain term Computer Organization.
- Que.1(C) Answer the following: (Any one) (05)
- (1) Explain De Morgan's theorem in detail.
 - (2) Explain all logical gates in details.
- Que.2(A) Answer the following: (03)
- (1) Full form of JK ____.
 - (2) In SR if both given inputs are one than what is the output.
 - (3) D flip flop stands for ____.
- Que.2(B) Answer the following: (Any Two) (06)
- (1) Explain the Edge-Triggered Flip-flop.
 - (2) Explain combinational circuit in detail.
 - (3) Explain term state table.
 - (4) Explain term state diagram.
- Que.2(C) Answer the following: (Any one) (05)
- (1) Explain Full adder in detail.
 - (2) Explain Flip flop with types.
- Que.3(A) Answer the following: (03)
- (1) Full form of TTL.
 - (2) Full form of MOS.
 - (3) Full form of ECL.

- Que.3(B) Answer the following: (Any Two) (06)
- (1) Explain 2 * 4 line decoder in detail.
 - (2) Explain Quadruple 2 * 1 line Multiplexer in detail.
 - (3) Write a note on IC in detail.
 - (4) Explain term Registers.
- Que.3(C) Answer the following: (Any one) (05)
- (1) Explain bi-directional register.
 - (2) Explain 4bit register with parallel load.
- Que.4(A) Answer the following: (03)
- (1) Full form of CPU.
 - (2) Full form of TR.
 - (3) Full form of INPR.
- Que.4(B) Answer the following: (Any Two) (06)
- (1) Explain Major Components of CPU.
 - (2) Make Reverse polish Notion ONLY.
 $\rightarrow S+E(I*R)$
 $\rightarrow (R/H)-(G *P)$
 - (3) Explain Accumulator Register.
 - (4) Explain Stack representation using polish notations.
- Que.4(C) Answer the following: (Any one) (05)
- (1) Explain DR, IR, PC, TR, INPR and OUTR in detail.
 - (2) Explain General Register Organization.
- Que.5(A) Answer the following: (03)
- (1) Full form of BR.
 - (2) Full form of IOP.
 - (3) Full form of DMA.
- Que.5(B) Answer the following: (Any Two) (06)
- (1) Explain Auxiliary Memory in detail.
 - (2) Explain IOP in detail.
 - (3) Explain Cycle stealing and burst transfer in detail.
 - (4) Explain term Computer start up in detail.
- Que.5(C) Answer the following: (Any one) (05)
- (1) Explain DMA transfer in detail.
 - (2) Explain DMA controller in detail.
