

B.Sc.(IT) Semester - 2 (CBCS) Examination
March/April - 2024 (As Per Syllabus Year-2016)
COMPUTER ORGANIZATION & 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 followings. (04)
- (1) ____ is the output of AND gate if both input is zero.
 - (2) If set = 0 and reset=1 than output is ____.
 - (3) What is the output of NOR gate if both input is Low?
 - (4) ____ is the Output of EXNOR gate if both inputs are 1.
- Que.1(B) Answer the following. (Any One) (02)
- (1) List out Universal Gates.
 - (2) Explain Meaning of Computer Architecture.
- Que.1(C) Answer the following. (Any One) (03)
- (1) Define the term: Truth Table.
 - (2) Explain De-Morgan's theorem.
- Que.1(D) Answer the following. (Any One) (05)
- (1) Explain Flip-flops in detail.
 - (2) Explain half adder and full adder in detail.
- Que.2(A) Answer followings. (04)
- (1) IC stands for ____.
 - (2) ____ another name of 3*8 decoder.
 - (3) In Decoder, Three inputs will generate ____ outputs.
 - (4) 8 * 3 encoder is also called ____.
- Que.2(B) Answer the following. (Any One) (02)
- (1) Explain buffer Register.
 - (2) What is the meaning of Serial in Parallel out register?
- Que.2(C) Answer the following. (Any One) (03)
- (1) Explain Ripple Counter.
 - (2) Explain De-Multiplexer 1 *4.
- Que.2(D) Answer the following. (Any One) (05)
- (1) Explain 3*8 Decoder in detail.
 - (2) Explain Bi-Directional Register.
- Que.3(A) Answer followings. (04)
- (1) In 45.68 ____ is the Fractional part of the given number.
 - (2) Radix[BASE] of Decimal is ____.
 - (3) In ____ number system the radix is 8.
 - (4) Radix[BASE] of Binary is ____.
- Que.3(B) Answer the following. (Any One) (02)
- (1) Explain term Mantissa.
 - (2) What is Exponent?
- Que.3(C) Answer the following. (Any One) (03)
- (1) Division: 1110011.10/ 110
 - (2) Explain Floating Point Representation.

- Que.3(D) Answer the following. (Any One) (05)
- (1) Explain Error Detection Code with parity bit?
 - (2) Multi: 101×110
- Que.4(A) Answer followings. (04)
- (1) Full form of PL
 - (2) How many bits are used in Control Word?
 - (3) Full form of CPU.
 - (4) In _____ notation operators are first.
- Que.4(B) Answer the following. (Any One) (02)
- (1) Explain Control word in detail.
 - (2) Make Polish and Reverse polish Notion
 $\rightarrow (A+B)*C$
 $\rightarrow (A+B)/(C+D)$
- Que.4(C) Answer the following. (Any One) (03)
- (1) Explain Accumulator Register.
 - (2) Explain Arithmetic and Logic unit.
- Que.4(D) Answer the following. (Any One) (05)
- (1) Explain General Register Organization.
 - (2) Explain interrupts and its types in detail.
- Que.5(A) Answer followings. (04)
- (1) DMA stands for_____.
 - (2) Full form of BG.
 - (3) BR stands for_____.
 - (4) Full form of RS.
- Que.5(B) Answer the following. (Any One) (02)
- (1) Explain Address Bus.
 - (2) Explain data bus.
- Que.5(C) Answer the following. (Any One) (03)
- (1) Explain Working of DMA.
 - (2) Explain IOP in detail.
- Que.5(D) Answer the following. (Any One) (05)
- (1) Explain DMA controller in detail.
 - (2) Explain DMA transfer in detail.
