647510 **BIT2CoaC103x** **Seat No :_____**

B.Sc.(IT) 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.

Que.1(A) Answer the following. (03)

(1) NOR is combination of ____ and _____gates.

(2) Inverter gate is also known as_____gate.

(3) Full form of POS is _____.

Que.1(B) Answer the following. (Any Two) (06)

(1) Explain Complement of function in detail.

(2) Explain term Computer Architecture.

(3) Explain term truth table.

(4) Explain Karnough Map with rules in detail.

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 SR____.

(2) In JK if both given inputs are one than what is the output.

(3) T flip flop stands for _____.

Que.2(B) Answer the following. (Any Two) (06)

(1) Explain the term Master Slave Flip-flop.

(2) Explain combinational circuit in detail.

(3) Explain excitation table of flip flop in detail.

(4) Explain the meaning of Sequential circuit.

Que.2(C) Answer the following. (Any one) (05)

(1) Explain Full adder and Half adder in detail.

(2) Explain Flip flop with types.

Que.3(A) Answer the following. (03)

(1) Full form of IC.

(2) Full form of LSI.

(3) Full form of MSI.

Que.3(B) Answer the following. (Any Two) (06)

(1) Explain 2 * 4 line decoder in detail.

(2) Explain 1 * 4 De-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 8 * 3 encoder in detail.

(2) Explain 3 * 8 decoder in detail.

Que.4(A) Answer the following. (03)

(1) Full form of CPU.

(2) Full form of DR.

(3) Full form of AC.

Que.4(B) Answer the following. (Any Two) (06)

(1) Explain Control word in detail.

(2) Make Polish and Reverse polish Notion

→W*D(I+K)

→(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 General Register Organization.

(2) Explain DR, IR, PC, TR, INPR and OUTR in detail.

Que.5(A) Answer the following. (03)

(1) Full form of DMA.

(2) Full form of BG.

(3) Full form of BR.

Que.5(B) Answer the following. (Any Two) (06)

(1) Explain Cache Memory in detail.

(2) Explain Boot Strap Loader in detail.

(3) Explain Cycle stealing and burst transfer in detail.

(4) Explain Auxiliary Memory in detail.

Que.5(C) Answer the following. (Any one) (05)

(1) Explain DMA transfer in detail.

(2) Explain DMA controller in detail.

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