

GYANMANJARI INNOVATIVE UNIVERSITY

GYANMANJARI INSTITUTE OF TECHNOLOGY

B.Tech.-Mid Semester Examination (MSE)- S2026

Enrollment No.: _____

Subject Code: BETCE16328

Date: 25/03/2026

Subject Name: Computer Organization and Architecture

Semester: 6th

Time: 2:30 pm to 4:30 pm

Total Marks: 60

Instructions:

1. Question No. 1 is compulsory.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		Marks
Q.1	(a) Explain Memory Transfer operation.	05
	(b) Explain General Register Organization with diagram.	05
	(c) Explain Looping and Branching instructions with examples.	10
Q.2	(a) Explain I/O Programming in assembly language.	05
	(b) A register R = 10110110 performs the following operations:	
	1. Logical Right Shift	
	2. Circular Right Shift	
	3. Arithmetic Right Shift	05
	Explain the result of each operation and justify why the bits change in that way.	
	OR	
	(b) Differentiate RISC and CISC architectures.	05
	(c) Explain Control Memory and Address Sequencing.	10
	OR	
	(c) Explain Instruction Pipeline with hazards.	10
Q.3	(a) Define Machine Language and Assembly Language.	05
	(b) Explain Program Control Instructions.	05
	(c) Show condition where pipeline gives worse performance than non-pipeline.	10
	OR	
Q.3	(a) A CPU is executing a program when an external device requests immediate attention.	
	• What mechanism allows the CPU to stop and handle this request?	05
	• Explain its types.	
	(b) Explain Data Transfer and Manipulation Instructions.	05
	(c) Design a scenario where interrupt cycle never ends.	10