

KALASALINGAM UNIVERSITY
(Kalasalingam Academy of Research and Education)
Anand Nagar, Krishnankoil-626 126

B.Sc. DEGREE END SEMESTER EXAMINATIONS, NOV/DEC 2016

I Semester

BSI103-Computer Architecture
(Common To All Sections)

Time : 180 Minutes

Dept: IT

Maximum : 100 Marks

(Answer ALL Questions of PART A and PART B)

Assessment Pattern as per Bloom's Taxonomy:

Remember	Understand	Apply	Analyze	Evaluate	Create	Total
14	132	34				180

Course Outcomes for Assessment in this Test:

COs	Course Outcome
CO1	To understand the architecture of modern computers.
CO2	To understand how a computer performs logical and arithmetic operations on positive and negative numbers.
CO3	To understand memory organization and various types of memory related devices.
CO4	Understanding of different instruction types. Able to calculate the effective address of an operand using addressing modes.
CO5	Understanding of IO organization.

PART – A (10 × 2 = 20 Marks)

		Pattern	Mapping COs	
1.	Define buses.	Remember	CO1	
2.	How do you determine word length of a computer?	Remember	CO1	
3.	Perform binary addition: $11110_2 + 0111_2$	Apply	CO2	
4.	State the purpose of shift register.	Remember	CO2	
5.	What is floppy disk?	Remember	CO3	
6.	Differentiate primary memory and secondary memory.	Understand	CO3	
7.	Define control unit.	Remember	CO4	
8.	Compare General purpose and special purpose register.	Understand	CO4	
9.	List down the types of mouse.	Remember	CO5	
10.	What is I/O processor?	Remember	CO5	

PART – B (5 × 16 = 80 Marks)

		Pattern	Mapping COs	
11a	Explain the components of digital computer?	Understand	CO1	(16)
	[OR]			
11b	Discuss the classification of computer?	Understand	CO1	(16)

12a	Convert the following number systems. a) $10.110_2 = (?)_{10}$ b) $18_{10} = (?)_2$ c) $110100101100_2 = (?)_{16}$ d) $11101_2 = (?)_8$ e) $34_8 = (?)_{10}$ f) $2A_{16} = (?)_{10}$ g) $72_{10} = (?)_8$ h) $2F_{16} = (?)_2$	Apply	CO2	(16)
[OR]				
12b	Construct the following flip flops: i) JK Flip flop ii) SR Flip flop iii) T Flip flop iv) D Flip flop	Apply	CO2	(16)
13a	Explain the following magnetic memory devices: i) Hard Disks ii) Magnetic Tapes	Understand	CO3	(16)
[OR]				
13b	Explain the types of optical disks.	Understand	CO3	(16)
14a	Elaborate INTEL 8085 and 8086 addressing modes.	Understand	CO4	(16)
[OR]				
14b	Discuss the 8085 instructions in detail	Understand	CO4	(16)
15a	What is the function of keyboard? Explain the categories of keys and construction of keys.	Understand	CO5	(16)
[OR]				
15b	Explain the types of printers in detail.	Understand	CO5	(16)

Assessment Summary:

COs	Remember	Understand	Apply	Analyze	Evaluate	Create	Total
CO1	4	32					36
CO2	2		34				36
CO3	2	34					36
CO4	2	34					36
CO5	4	32					36
