P P SAVANI UNIVERSITY

First Semester of B.Sc./BCA Examination

January 2023

SSCA1020 Introduction to Computer Organization

7.1.2023, Saturday **Time: 10:00 a.m. To 12:30 p.m.** **Maximum Marks: 60**

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION – I

			CO	BTL
Q - 1(a)	Discuss number system in details with example.	**[04]**	1	3
Q - 2(b)	Solve it	**[08]**	2	2
	I. $(16784)_{10} = (?)_8$			
	II. $(62545)_8 = (?)_{16}$			
	III. $(4766)_8$ = 1's & 2's compliment			
	IV. Solve it in binary and represent in sign magnitude $(-46A4)_{16}$			
Q - 2 (a)	What is shift register? Explain in details.	**[05]**	2	2,3
Q - 2 (b)	What is flip-flop in computer organization? Also disuss about S-R and J-K flip-flop.	**[04]**	3	
Q - 3 (a)	Write a short note.(Any3)	**[04]**	1	3
	i. OUTR and INPR			
	ii. AR/DR			
	iii. PC/AC			
	iv. TR/IR			
Q - 3(b)	Explain instruction cycle in details with diagram.	**[05]**	3	3

SECTION – II

Q -1(a)	What is subtract algorithm, explain its flow chart.	**[06]**	2	2
Q - 1(b)	Solve it with help of Booth's algorithm.	**[05]**	2	2
	I. 7*3	**[03]**	1	2
Q - 2 (a)	What is memory hierarchy pyramid structure?	**[04]**	2	3
Q - 2(b)	Write a short note (any 2)			
	I. Paging.			
	II. Segmentation.			
	III. Advantage and disadvantage of paging.	**[03]**	1	3
Q - 3 (a)	Explain direct memory access (DMA) with block diagram.	**[03]**	2	3
Q – 3(b)	Explain Strobe Control in data transfer.			

OR

Q - 3(b)	Explain Handshaking in data transfer.	**[03]**	**3**	**3**
Q – 4(a)	Solve it with diagram-(Any one)	**[02]**	**3**	**3,4**
	I. $A_i * B_i + C_i / F_i$ for i = 1, 2, 3, ..., 7			
	II. $A_i / B_i + C_i - Di$ for i = 1, 2, 3, ..., 7			
Q –4 (b)	Explain 8086 microprocessor with block diagram.	**[04]**	**1**	**3**

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CO : Course Outcome Number BTL : Blooms Taxonomy Level

Level of Bloom's Revised Taxonomy in Assessment

1: Remember	2: Understand	3: Apply
4: Analyze	5: Evaluate	6: Create