

www.FirstRanker.com

www.FirstRanker.com

Code No: 811AB JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD MCA I Semester Examinations, January - 2020 COMPUTER ORGANIZATION

Time: 3hrs

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 8 marks and may have a, b, c as sub questions.

PART - A

5×4 Marks = 20

Max.Marks:60

1.a)	Convert the decimal number 5647 to i) BCD ii)Excess-3 code.	[4]
b)	What is locality of reference?	[4]
c)	Discuss the function of instruction queue in 8086.	[4]
d)	What is the need for DMA transfer?	[4]
e)	What are instruction hazards?	[4]

PART - B

	$5 \times 8 \text{ N}$	Iarks = 40
2.	Simplify the Boolean expression using K-MAP	
	$F(A,B,C,D) = \sum m(1,2,3,8,9,10,11,14) + d(7,15).$	[8]
3.	Design the combinational circuit of Binary to Excess-3 code convertor.	[8]
4.	Discuss about direct and set-associative mapping with examples. OR	[8]
5.	A two way set associative cache memory uses blocks of four words. The accommodate a total of 2048 words from the main memory. The main memory 128 K*32.	cache can ory size is
	a) Formulate all pertinent information required to construct the cache memory.b) What is the size of the cache memory?	[8]
6.	Explain in detail the register organization of 8086.	[8]
7.	Write an assembly language program to concatenate two strings.	[8]
8.	Describe in detail about IOP Organization.	[8]
9.a) b)	Discuss the differences between subroutine and interrupt service routines. Discuss the design of a typical input or output interface.	[8]
10.a) b)	Describe in detail about pipeline processing. Explain in detail about data hazards.	[8]
11.	Describe the architecture of a shared memory multiprocessor.	[8]

---00000----

www.FirstRanker.com