[Total No. of Printed Pages:1]

## **CODE NO:- Z-8043**

FACULTY OF ENGINEERING & TECHNOLOGY

M.E (CSE)Year Examination - June-2015

## **Advanced Algorithm**

					(Re	evised)					
[Time: Three Hours]								[Max. Marks:80]			
			"Please ch	eck whet	ther you ha	ive got the	e right qu	estion pa	per."		
			i) Attempt	<u>any two</u> g	questions fr	om each s	section.				
					SEC	TION-A					
Q.1	a)	What is performance analysis of an algorithm? How to compute complicity of following problem.									. 10
	1) Bubble sort										
		2) Binary	search meth	od.							
	b)	Explain greed	y method by	taking su	iitable exar	nple of ac	tively sele	ection pro	oblem.		10
Q.2	a)	a) Explain hiring problem using indicate random variables.									10
	h)	Solve the following rod cutting problem using dynamic programming for a rod of length 4									10
	0)	Length 1	2	3	4	5	6	$\overline{7}$	8		10
		Price 1	5	8	9	10	17	17	20	_	
		11100 1	5	U	-	10	17	17	20		
Q.3	a)	Sort given set of number using heap sort .Comment on Complexity .30,45,25,55,50,20,80,65,60,70.									70. 10
	b)	b) Explain minimum bipartite mateling problem with suitable example.								, ., ., ., ., ., .	10
		1	1	· · ·	S	SECTION	-B				
Q.4	a)	) Explain iterative FFT.								08	
	b)	) Multiply thee polynomial									06
		A(x)= $17x^3 - 3x^2 + x - 10$ and									
		B(x)= $8x^3 - 6x + 3$									
	c)	Explain Ext. Euclid's algorithm									06
Q.5	a)	Draw a hamiltonian aircuit for following boolean approxim $(x + y + y)$ $(\overline{x} + y + \overline{x})$ $(x + \overline{x} + 1)$									$\overline{x} \perp 10$
	<i>a)</i>	a) Draw a naminoman encurt for following boolean expension $(x_1 + x_2 + x_3), (x_1 + x_2 + x_3), (x_2 + x_3), (x_3 + x_3), (x_5 + x_3), ($								$x_2 + x_3), (x_1 + x_3)$	λ <sub>2</sub>   10
	h)	A37 Prove that vertex queue problem is NP-complete									05
	c)	Prove that clique is NP-complete									05
	0)	110 ve thát eng		inproto :							00
Q.6	a)	Explain polyn	omial multip	lication a	and division	n.					08
	b)	Explain Rabin –karp algorithm with an example									08
	c)	Find the position tree for abababa\$.								04	