Class/Sem: Second Year/ III		Subject: DSAA	
Date: 26/08/2013	Duration: 1 Hrs.	Marks: 20	
Note: Q.1 is compulsory. Solve any one from Q.2 and Q.3.			
Q.1]: Define a binary tree? Explain about Binary Tree Traversals along with algorithms and examples. [5M]			
Q.2]: [a] Write a program to implement the following stack operations using arrays and display the output			
[i]create [ii]push [iii]	pop [iv]display		[10M]
[b] What is the difference between circular linked list and double linked list [5M]			[5M]
Q.3]: [a] Write an algorithm to convert infix expression to postfix form along with an example [8M]			[8M]
[b] Define Expression tree with a	in example		[2M]

Class/Sem: Second Year/ III		Subject: AMIII
Date: 26/08/2013	Duration: 1 Hrs.	Marks: 20

Note: Q.1 is compulsory. Out of Q.2 & 5 attempt any two.

Q.1]	Find the Laplace Transform of	
	[a] $f(t) = cost$ , $0 < t < \pi$ and	
	$f(t) = sint,  t > \pi$	[5M]
	[b] <i>sin<sup>5</sup>t</i>	[5M]
Q.2]	Find L.T.of $t \cos^2 t$	[5M]
Q.3]	Find L.T.of $t\sqrt{1 + \sin t}$	[5M]
Q.4]	Find L.T.of $(1+2t-3t^2+4t^3)$ H (t-2)	[5M]
Q.5]	Find L.T.of $\frac{1}{t}(1 - \cos t)$	[5M]

Class/Sem: Second Year/ III		Subject: OOPM		
Date:	27/08/2013	Duration: 1 Hrs.	Marks: 20	
Note:	Note: Q.1 is compulsory. Solve any one from Q.2 and Q.3.			
Q.1]:	Write a note on Object orie	nted concept in java.		[5M]
Q.2]:	[a] Write a difference betwe	een following		[5M]
	[1] C and JAVA			
	[2] Vector and Array			
	[b] What are the different lo	oops used in java illustrate v	with proper example.	[10M]
Q.3:	[a] Which kind of tokens us	eed in java programming?		[5M]
	[b] Write a program for patt 1A 12AB 123ABC 1234ABCD	ern given below.		[10M]

Class/Sem: Second Year/ III			
Duration: 1 Hrs.	Marks: 20		
Note: Q.1 is compulsory and solve any one from remaining.			
as universal logic gates.	[5M]		
g three variable Boolean	expression. [5M]		
ss 3 code converter.	[10M]		
ng expression using K-M	ap and realize using basic gates.		
7, 8, 10, 13, 15)	[05M]		
er using 4 bit binary adde	r IC 7483 by adding 0101 and 0110.		
	[10M]		
ing Boolean function using	ng 8:1 MUX		
BD +ACD +BCD +ACD.	[7M]		
LU.	[8M]		
	Duration: 1 Hrs. solve any one from rema as universal logic gates. g three variable Boolean of ss 3 code converter. ng expression using K-Ma 7, 8, 10, 13, 15) er using 4 bit binary adde ring Boolean function usir BD +ACD +BCD +ACD. LU.		

Class/Sem: Second Year/ II	I	Subject: DBMS	
Date: 28/08/2013	Duration: 1 Hrs.	Marks: 20	
Note: Q.1 is compulsory. So	lve any one from Q.2 and	Q.3.	
Q.1]: Write queries for the fo	llowing:		
[a] Find all the faculties	whose name starts with 'A	,	
[b] Display the maximum salary of all the departments in company. [5M]			[5M]
[c] Find the details of all staff members who are not assgined with any subjects.			
[d] Display all the faculties working in IT dept faculty name wise.			
[e] Find out all the empl	oyees having salary less tha	n all manager but he is not a man	ager.
Q2]: [a] Draw an E-R diagram	n for online bookstore. List	the entity set & primary keys.	[10M]
[b] What is a view? How	it is created and used?		[5M]
O31: [a] Explain the followin	a relational algebra operatio	ns with examples.	
rename, set difference	e,outer join	ns with examples.	[10M]
[b] Discuss main catego	ries of data models.		[5M]

Class/Sem: Second Year/ III		Subject: P.COM
Date: 28/08/2013	Duration: 1 Hrs.	Marks: 20

[5M]

#### Note: Q.1 is Compulsory. Attempt any one question Q.2 or Q.3

Q.1]: Explain the need for modulation.

Q.2]: [a] Define Amplitude Modulation and list types. Explain in detail the working of balanced modulator using diode to generate DSB-SC .Draw the frequency spectrum for the same, advantages and disadvantages of DSB SC. [12M]
[b] Find the Fourier transform for unit step signal. [3M]

#### Q.3]: [a] An AM signal appears across a 50 $\Omega$ resister

 $V(t) = 12 (1 + \sin 12.567 \times 10^{4} \text{ sin } 19.75 \times 10^{4} \text{ ft. Find modulation \%, SB Frequencies,}$ total power and only sideband power, bandwidth ,power wastage, transmission efficiency, draw frequency spectrum. [7M]

- [b] Derive Friss formula to calculate noise factor for amplifiers in cascade mode. [4M]
- [c] Difference between HLM and LLM [4M]