ANJUMAN-I-ISLAM'S
KALSEKAR TECHNICAL CAMPUS, NEW PANVEL
Approved by : All India Council for Technical Education, Council of Architecture, Pharmacy Council of India New Delhi,
Recognised by : Directorate of Technical Education, Govt. of Maharashtra, Affiliated to : University of Mumbai.
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DEPARTMENT OF COMPUTER ENGINEERING

REV:00	QUESTION PAPER CLASS TEST 01/ 02	EXM-04 A

CLASS:- **SE CO**	SEM:- **III**
COURSE:- **DM**	DATE:- **/ 10 / 2018**
DURATION:- **60 Min.**	MARKS:- **20**

CLASS TEST 02

	Q.01 Explain any Five: (10 Marks)	**Marks**	**CO**
a)	Lattice & Poset	**02**	**CO3**
b)	Normal Subgroup & Group	**02**	**CO 6**
c)	Planar graph & Bipartite Graph	**02**	**CO 4**
d)	Monoid & Semi Group	**02**	**CO 6**
e)	Encoding Function & Group Code	**02**	**CO 5**
f)	Abelian Group & Parity Check Code	**02**	**CO 5**
Q.02 Attempt any One: (06 Marks)			
a)	Prove that A = {1,2,3,4,5,6} is finite Abelian group under multiplication modulo 7.	**06**	**CO 6**
b)	Find solution to recursive relation $a_n = 6a_{n-1} - 11a_{n-2} + 6a_{n-3}$ with $a_0 = 2$, $a_1 = 5$ & $a_2 = 15$	**06**	**CO 4**
Q.03 Attempt any One: (05 Marks)			
a)	How many friends must you have to guarantee that at least five of them have their birthday in the same month?	**04**	**CO 6**
b)	Let f: R-->R defined as f(x) = x^3 & g: R-->R as g(x) = $4x^2+1$. Find out **gof, fog, f^2, g^2.**	**04**	**CO 4**

CRITERION : 2.2.2, 3.2.2.

FILE NO : P25, P31

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REV:00	QUESTION PAPER CLASS TEST 01/ 02	EXM-04 B

CLASS:- **SE CO**	SEM:- **III**
COURSE:- **Data Structures**	DATE:- **24/10/2018**
DURATION:- **60 Min.**	MARKS:- **20**

CLASS TEST 02

	Q.01 Attempt any Five: (10 Marks)	**Marks**	**CO**
a)	Define Graph.	02	CO5
b)	Differentiate linked list and arrays.	02	CO3
c)	Define hashing.	02	CO6
d)	Define tree.	02	CO4
e)	Quick sort is faster than Insertion sort. State whether true or false with justification.	02	CO6
f)	Linked list grows and shrinks dynamically. State whether true or false with justification.	02	CO3
	Q.02 Attempt any One: (05 Marks)		
a)	Write a program to implement singly linked list.	05	CO3
b)	Create an expression tree for the postfix string abc*def*-/+ba*+	05	CO4
	Q.03 Attempt any One: (05 Marks)		
a)	Write a program to implement Quick sort.	05	CO6
b)	Explain BST and draw BST for 10, 15, 5, 1, 3, 18, 12, 7, 2, 22.	05	CO4

CRITERION : 2.2.2, 3.2.2.

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DEPARTMENT OF COMPUTER ENGG			
CLASS:- SECO		SEM:- III	
SUBJECT:- DLDA		DATE:- 24/10/18	
DURATION:- 60 mins.		MARKS:- 20	
UNIT TEST-2			
Q.01 Attempt any 5: (10 Marks)		**Marks**	**CO**
a)	Write truth table for SR, T, D, JK FF.	**2**	**CO4**
b)	Draw timing diagram of race around condition in JK FF .	**2**	**CO4**
c)	Draw bidirectional shift register.	**2**	**CO4**
d)	Differentiate TTL/CMOS	**2**	**CO5**
e)	Design 1-bit binary comparator.	**2**	**CO3**
f)	Implement following function using MUX and few gates. $f(A,B,C,D)=\Sigma\, m\,(0,3,5,7,9,13,15)$.(draw only diagram)	**2**	**CO4**
Q.02 Attempt any 1: (05 Marks)			
a)	Design 3-bit binary to gray code converter.	**5**	**CO3**
b)	Write entity declaration construct in VHDL for NOR gate.	**5**	**CO5**
Q.03 Attempt any 1: (05 Marks)			
a)	Explain 4-bit twisted ring counter with diagram.	**5**	**CO4**
b)	Design 1:16 demux using 1:4 demux.	**5**	**CO4**

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REV:00	QUESTION PAPER CLASS TEST 01/02	EXM-04 B

CLASS:- SE	SEM:- III
COURSE:- AM-III	DATE:- 23/10/2018
DURATION:- 60 Min.	MARKS:- 20

CLASS TEST 02

Q.01 Attempt any TWO: (10 Marks)		Marks	CO
a)	Find $L\{t\sqrt{1+sint}\}$	05	CO3
b)	Prove that $\int_0^\infty e^{-t}\frac{sin^2t}{t}dt = \frac{1}{4}log5$	05	CO3
c)	Find $L^{-1}\left\{\frac{1}{(s-1)(s^2+4))}\right\}$ using Convolution theorem.	05	CO4
Q.02 Attempt any TWO: (10 Marks)			
a)	Solve $(D^2+9)y = 18t \quad if \quad y(0)=0 \; and \; y(\pi/2)=0$	05	CO4
b)	Obtain the Fourier series expansion of $f(x) = \frac{3x^2-6x\pi+2\pi^2}{12}$ in $0 \le x \le 2\pi$	05	CO5
c)	Obtain HRC series for $f(x) = (x-1)^2$ in $0 < x < 1$. Hence find $\sum_{n=1}^{\infty}\frac{1}{n^2}$	05	CO5

***** All the Best *****

CRITERION: 2.2.2, 3.2.2.

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EXM-04B

CLASS:- **S.E.** COMPUTER	SEM:- III[rd]
SUBJECT/Course:- **ECCF**	DATE:- 22/10/2018
DURATION:- **1Hr.**	Max. MARKS:- **20**

Unit Test - 02

Q- 01 Attempt any 5 : (10 Marks)		**Marks**	**CO**
a)	Explain the Delta modulation.	2	CO5
b)	Explain the terms - channel capacity, information rate.	2	CO6
c)	What are the needs for modulation ?	2	CO4
d)	What is signal multiplexing? List out types of Multiplexing.	2	CO4
e)	A certain transmitter radiates 9 kW with carrier unmodulated, and 10.125 kW when carrier is sinusoidally modulated. Calculate modulation index.	2	CO5
f)	What is modulation index in FM ? What is Carson's rule ?	2	CO4
Q - 02 Attempt any 1			
a)	How DSBSC is generated using balanced modulator ?	5	CO4
b)	Draw AM wave & derive its equation.	5	CO4
Q - 03 Attempt any 1			
a)	Draw & explain Armstrong methode of FM generation.	5	CO5
b)	Compare PAM, PWM, PPM. (minimum 5 points)	5	CO4

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EXM-04B

CLASS:- **S.E.** COMPUTER	SEM:- III[rd]
SUBJECT/Course:- **ECCF**	DATE:- 22~~23~~/10/2018
DURATION:- **1Hr.**	Max. MARKS:- **20**

Unit Test - 02

Q- 01 Attempt any 5 : (10 Marks)		**Marks**	**CO**
a)	Explain the Delta modulation.	2	CO5
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c)	What are the needs for modulation ?	2	CO4
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