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.

☐ SCHOOL OF ENGINEERING & TECHNOLOG
☐ SCHOOL OF PHARMACY
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DEPARTMENT OF COMPUTER ENGINEERING

CLASS:- SE	SEM:- IV
SUBJECT:- COA	DATE:- 28 / 02/ 2018
DURATION:- 60 mins.	MARKS:- 20

CLASS TEST 01

Q.01 Attempt any 5: (10 Marks)		Marks	CO
a)	What is happening in the given instruction : Add #45,R1 .	2	CO-2
b)	If a processor clock is rated as **1250** million cycles per second, then its clock period is _____ . Mention the formula as well.	2	CO-2
c)	The ALU makes use of _____ to store the intermediate results. List all control and status registers.	2	CO-1
d)	Any condition that causes a processor to stall is called as _____ . List out its types.	2	CO-2
e)	Differentiate Computer Architecture with Computer Organization.	2	CO-1
f)	The transformation between the Parallel and serial ports is done with the help of _____ register. Explain different modes of transfer.	2	CO-2

Q.02 Attempt any 1: (05 Marks)			
a)	Draw the flow chart for Booth's Algorithm for 2's Complement Multiplication. Using Booth's Algorithm show the multiplication of (-2) and (-10).	5	CO-1
b)	Draw the flow chart for Restoring Division and show the division of (11) and (4).	5	CO-1

Q.03 Attempt any 1: (05 Marks)			
a)	Explain different types of pipeline hazards with suitable examples.	5	CO-2
b)	Explain the different Instruction formats with suitable example.	5	CO-2

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DEPARTMENT OF: COMPUTER ENGINEERING

CLASS:- **SE.CO**	SEM:- **IV**
SUBJECT:-**APPLIED MATHS-IV**	DATE:- **27/02/2018**
DURATION:-**1 HOUR**	MARKS:- **20**

CLASS TEST-01

	Marks	CO
Q1: Attempt any two questions of the following.		
a) Find eigen values and eigen vectors of $A = \begin{bmatrix} 2 & 1 & 0 \\ 0 & 2 & 1 \\ 0 & 0 & 2 \end{bmatrix}$	04	CO1
b) Evaluate $\int_0^{1+i}(x^2 + iy)dz$, along the path $y = x^2$	04	CO2
c) Evaluate $\int_C \bar{z}\,dz$, where C is upper half of $|z| = 1$.	04	CO2
Q2: a) Is the matrix $A = \begin{bmatrix} 1 & -2 & 0 \\ 1 & 2 & 2 \\ 1 & 2 & 3 \end{bmatrix}$ diagonalisable? OR If $A = \begin{bmatrix} 1 & 0 & 0 \\ 1 & 0 & 1 \\ 0 & 1 & 0 \end{bmatrix}$ find A^{50}.	06	CO1
b) Expand $f(z) = \dfrac{4z+3}{z(z-3)(z+2)}$ as Laurent series in the ROC $i)\ 2 < |z| < 3 \qquad ii)\,|z| > 3$ OR Evaluate $\oint_C \dfrac{e^z}{(z^2+\pi^2)^2}\,dz$, where C is $|z| = 4$.	06	CO2

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DEPARTMENT OF COMPUTER ENGG

CLASS TEST 01

CLASS:- SE

SUBJECT:- Computer Graphics

DURATION:- 60 mins.

DATE:- 01 / 03 / 2018

MARKS:- 20

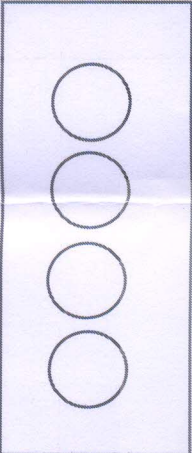|			Marks	CO
Q.01 Attempt any 5: (10 Marks)				
a)	List any 4 applications of computer graphics?		2	CO1
b)	What happens to the output if the scaling transformation factors are i) sx=sy=2 ii) sx=sy=0.5 ?		2	CO3
c)	Which filling method are used by drawpoly() and floodfill() functions.		2	CO2
d)	List any two anti-aliasing techniques.		2	CO2
e)	Bresenham's line drawing algorithm is faster than DDA algorithm. Justify.		2	CO2
f)	Explain any one method of inside-outside test?		2	CO2
Q.02 Attempt any 1: (05 Marks)				
a)	Write the flood filling algorithm using 4 connected neighbors.		5	CO2
b)	What are 2D geometric transformations? Explain any two them		5	CO3
Q.03 Attempt any 1: (05 Marks)				
a)	Write the DDA algorithm and to draw a line between (2,3) and3(8,7)		5	CO2
b)	Write a c graphics program to draw the following output using only a single circle() function in the program.		5	CO2

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UNIT TEST 01

CLASS:- SE CO

SUBJECT:- AOA   SEM:- IV

DURATION:- 60 mins.   DATE:- 28/02/2018   MARKS:- 20

|		Marks	CO
Q.01 Attempt any 5: (10 Marks)			
a)	Write representation of upper bound of an algorithm running time.	2	CO1
b)	Write time functions for merge sort, quick sort, Binary search & MaxMin algorithms.	2	CO2
c)	Explain any two properties of algorithm.	2	CO1
d)	Write at least two comparisons between Divide & Conquer strategy and Greedy Method.	2	CO2,3
e)	Write difference between Prim's & Kruskal's Algorithm.	2	CO3
f)	Compare time complexity of insertion and selection sort in worst, average and best cases.	2	CO1
Q.02 Attempt any 1: (05 Marks)			
a)	Write the algorithm & Derive the complexity for binary search algorithm.	5	CO2
b)	Solve the job sequencing problem with n=4, Profits {p1,p2,p3,p4} = {100,10,15,27}; Deadlines {d1,d2,d3,d4} = {2,1,2,1}	5	CO3
Q.03 Attempt any 1: (05 Marks)			
a)	Find LCS for the following string X=ACBAED, Y=ABCABE.	5	CO4
b)	What is principle of optimality? Write steps of Dynamic Programming.	5	CO4
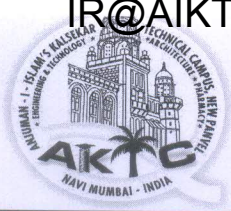
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DEPARTMENT OF COMPUTER ENGINEERING

CLASS:- SE	SEM:- IV
SUBJECT:- OS	DATE:- 01 / 03 /2018
DURATION:- 60 mins.	MARKS:- 20

TERM TEST TEST I

Q.01 Attempt any 5: (10 Marks)

		Marks	CO
a)	Define Mutual Exculsion. List software approaches for mutual exclusion.	2	CO2
b)	Draw process state diagram.	2	CO2
c)	What is a system class. Enlist the types of system calls.	2	CO1
d)	Differentiate between process and threads (4 points minimum)	2	CO2
e)	What do you mean by PCB. Draw the diagram form same. Enlist the metadata stored in PCB.	2	CO1
f)	What do you mean by monolithic and microkernel?	2	CO1

Q.02 Attempt any 1: (05 Marks)

		Marks	CO
a)	Assume following processes arrive for execution at the time indicated and length of the CPU burst time given in ms.	5	CO3

Job	Burst Time	Priority	Arrival Time
P1	8	3	3
P2	1	1	1
P3	3	2	2
P4	2	3	3
P5	6	4	4

Find AWT, ATAT for FCFS, SJF (Non-Preemptive), Priority & Round Robin (Quantum 2 ms)

		Marks	CO
b)	Consider following set of processes, with length of the CPU burst time given in ms.	5	CO3

Process	Burst time	Priority
P_1	10	3
P_2	1	1
P_3	2	3
P_4	1	4
P_5	5	2

The processes are assumed to have arrived in the order P1, P2, P3, P4, P5 all at time 0. Draw Gantt charts for the following scheduling algorithms FCFS, SJF (non preemptive), priority and RR (quantum =1) and also calculate turnaround time and average waiting time.

Q.03 Attempt any 1: (05 Marks)

		Marks	CO
a)	What is operating system. Explain different functions and objectives of operating system.	5	CO1
b)	Explain Inter-Process communication in brief.	5	CO3