KUMARAGURU
college of technology
character is life

Register Number:……

M.E DEGREE EXAMINATIONS: JUNE 2018

(Regulation 2015)

Second Semester

CAD/CAM

P15CCT203: Computer Applications In Design

COURSE OUTCOMES

CO1: Explain the fundamentals of computer graphics

CO2: Apply different techniques for geometric modelling

CO3: Apply different algorithm to create prismatic and lofted parts

CO4: Discuss tolerance analysis and mass property calculations

CO5: Explain data exchange standards and communication standards

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Assertion (A): Mapping of a part of a world coordinate scene to device coordinate is referred to as a viewing transformation. CO1 [K_1]

   Reason (R): A rectangular region of the screen which is selected for displaying the object.

   a) Both A and R are Individually true and R is the correct explanation of A
   b) Both A and R are Individually true but R is not the correct explanation of A
   c) A is true but R is false
   d) A is false but R is true

2. Number of points per cm that can be plotted horizontally or vertically CO1 [K_1]

   a) Resolution
   b) Output primitives
   c) Attributes
   d) Algorithm

3. An inverted binary tree is very useful to understand the data structure of CO2 [K_1]

   a) Primitive solid
   b) Sweep
   c) Basic elements
   d) CSG Models

4. Matching type item with multiple choice code CO2 [K_1]

List I	List II
A. Plane surface	i. Linear surface
B. Lofted surface	ii. Simple surface
C. Surface of revolution	iii. Axisymmetric surface
D. B-Spline surface	iv. Synthetic surface

	A	B	C	D
a)	ii	i	iii	iv
b)	iii	iv	ii	i
c)	ii	iv	iii	i
d)	iii	i	ii	Iv

5. Assertion (A): Still the most common mean of communicating the geometry of mechanical parts, are limited in their ability to portray intricate shape. CO3 [K_1]
Reason (R): Shading color images convey shape information that cannot be represented in line drawings

a) Both A and R are Individually true and R is the correct explanation of A
b) Both A and R are Individually true but R is not the correct explanation of A
c) A is true but R is false
d) A is false but R is true

6. More pleasing effects on the human vision system is CO3 [K_1]

a) Achromatic colors
b) Chromatic colors
c) Gamma correction
d) Color range

7. Virtual simulation input hardware include the following CO4 [K_1]

1. Voice recognition
2. Sound recognition
3. Bottom up approach
4. Top down approach

a) 1,3
b) 1,4
c) 1,2
d) 2,3

8. The total permissible variation from the specified basic size of the part is CO4 [K_1]

a) Assembly Modelling
b) Mechanism Simulation
c) Tolerance
d) Mass property Calculations

9.	The system used to standardize the graphic system calling procedures at the lowest level so that programmers and program can be easily migrated between different systems a) IGES b) STEP c) GKS d) DXF	CO5	[K_1]
10.	IGES file general structure have the following sequence of operations: 1. Flag section 2. Global section 3. Start section 4. Directory entry section a) 2-3-4-1 b) 1-3-2-4 c) 3-4-2-1 d) 4-1-3-2	CO5	[K_1]

PART B (10 x 2 = 20 Marks)

11.	Define positive slop	CO1	[K_2]
12.	Choose the properties of output primitives	CO1	[K_2]
13.	What is mean by NURBs?	CO2	[K_2]
14.	Write a short note on coons patch	CO2	[K_2]
15.	List colors in RGB color model	CO3	[K_2]
16.	Define Parametric Design	CO3	[K_2]
17.	Choose the property formulation of mass	CO4	[K_2]
18.	Write about assembly of parts	CO4	[K_2]
19.	What do know about graphics and computing standards?	CO5	[K_2]
20.	Define WAN and LAN	CO5	[K_2]

PART C (6 x 5 = 30 Marks)

21.	Illustrate window to viewport transformation	CO1	[K_2]
22.	Show the Translation and rotation transformation system	CO1	[K_2]
23.	Outline about CSG modeling technique	CO2	[K_2]
24.	Classify the different types of coherence	CO3	[K_2]
25.	Build the mechanism simulation	CO4	[K_2]
26.	Outline about GKS and Bitmaps	CO5	[K_2]

Answer any FOUR Questions
PART D (4 x 10 = 40 Marks)

27.	Construct the line with the end points (20, 10) and (30, 18) this line has a slope of 0.8.	CO1	[K_3]
28.	Build the Bezier curve with Geometric modeling techniques	CO2	[K_3]
29.	Discuss about hidden line removal algorithm	CO3	[K_3]
30.	Discuss in detail about Worst Case Arithmetic tolerance analysis	CO4	[K_3]
31.	Discuss in detail about IGES and STEP	CO5	[K_3]

****