

University of Mumbai
Examination 2020 under cluster 4 (PCE)

Program: BE Mechanical Engineering
Curriculum Scheme: Rev2016
Examination: Final Year Semester VII
Course Code: MEC702 and Course Name: CAD/CAM/CAE

Time: 1 hour

Max. Marks: 50

Note to the students: - All the Questions are compulsory and carry equal marks.

Q1.	In raster scan display, the frame buffer holds
Option A:	Line drawing commands
Option B:	Scanning instructions
Option C:	Image Resolution
Option D:	Intensity information
Q2.	The process of elimination of parts of a scene outside a window or a viewport is called?
Option A:	Cutting
Option B:	Plucking
Option C:	Clipping
Option D:	Editing
Q3.	The coordinates of the four control points of a Bezier curve are given by $P_0 (3, 4)$, $P_1 (2, 8)$, $P_2 (3, 5)$ $P_3 (3, 2)$. Determine the coordinates of a point on a curve at $u=1$.
Option A:	(3, 2.5)
Option B:	(4.5, 2)
Option C:	(3, 2)
Option D:	(3.5, 4)
Q4.	Ray tracing is an extension of
Option A:	Ray casting
Option B:	Ray calling
Option C:	Ray sampling
Option D:	Ray coherence
Q5.	In the following three-dimensional modeling techniques, which technique require least computer time and memory?
Option A:	Wireframe modeling
Option B:	Solid modeling
Option C:	Surface modeling
Option D:	CGS
Q6.	If a triangle ABC with coordinates A(10,5), B(30,5), C(30,15) is reflected about the line passing through side BC, the new transformed coordinates of point C will be
Option A:	(30,15)
Option B:	(-30,15)
Option C:	(30,-15)

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Option D:	Not possible
Q7.	Two successive scaling are _____
Option A:	Multiplicative
Option B:	Inverse
Option C:	Subtractive
Option D:	Additive
Q8.	When every entity of a geometric model remains parallel to its initial position, the transformation is called as _____.
Option A:	scaling
Option B:	translation
Option C:	rotation
Option D:	mirror
Q9.	All changes performed on the graphic image are done by changing the database of the original picture. These changes are called as _____.
Option A:	Boolean operations
Option B:	transformations
Option C:	scanning
Option D:	raster scan
Q10.	From the following, which one will require maximum numbers of matrices to multiply?
Option A:	Rotation about the origin
Option B:	Rotation about an arbitrary Point
Option C:	Rotation about an arbitrary line
Option D:	Scaling about the origin
Q11.	M-code for Coolant ON is
Option A:	M04
Option B:	M05
Option C:	M06
Option D:	M07
Q12.	G43 is used to
Option A:	On Tool Length Compensation
Option B:	Off Tool Length Compensation
Option C:	On Cutter diameter Compensation
Option D:	Off Cutter diameter Compensation
Q13.	The tool of NC machine has to move along a circular arc from (5, 5) to (10, 10) while performing an operation. The center of the arc is at (10, 5). Which one of the following NC tool path commands perform the above mentioned operation?
Option A:	N010 G02 X10 Y10 R5
Option B:	N010 G02 X5 Y5 R5
Option C:	N010 G03 X10 Y10 R5
Option D:	N010 G03 X5 Y5 R5

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Q14.	For turning part program, the axis of the workpiece is considered as
Option A:	X Axis
Option B:	Y Axis
Option C:	Z Axis
Option D:	X or Z Axis
Q15.	In point to point type of NC system
Option A:	control of position and velocity of the tool is essential
Option B:	control of only position of the tool is sufficient
Option C:	control of only velocity is sufficient
Option D:	neither position nor velocity need to be controlled
Q16.	Which one of the following is purely social aspects of CIM?
Option A:	Increase in profit
Option B:	Increase in plant efficiency
Option C:	Increase in unemployment
Option D:	Down sized workforce
Q17.	CIM deals with one of the below mentioned extra functions as compared to CAD and CAM
Option A:	Manufacturing functions
Option B:	Business functions
Option C:	Design functions
Option D:	Production, Planning and Control
Q18.	Which one of the following is not the CIM software?
Option A:	Simulation Software
Option B:	Design and analysis software
Option C:	CNC software
Option D:	Modems software
Q19.	Convergence can be attained by
Option A:	neither by increasing no. of elements nor by increasing order of element
Option B:	only increasing the no. of elements
Option C:	only increasing the order of the element
Option D:	either by increasing no. of elements or increasing order of element
Q20.	The process in which the raw material is in the form of sheets is
Option A:	3D printing
Option B:	Stereo lithography
Option C:	Selective laser sintering
Option D:	Laminated Object Manufacturing
Q21.	Which of the following is the first step of the rapid prototyping process?
Option A:	3D Modeling
Option B:	Data Conversion
Option C:	Building

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Option D:	Post processing
Q22.	Rapid prototyping is NOT a ____ process
Option A:	Solid Freeform Fabrication
Option B:	Layer Manufacturing
Option C:	Additive Manufacturing
Option D:	Formative Manufacturing
Q23.	The supported file format for RP process is
Option A:	.stl
Option B:	.eps
Option C:	.csv
Option D:	.stlr
Q24.	Application interfacing is possible in Fusion 360 by means of
Option A:	Add ins
Option B:	parametric modelling
Option C:	Utility
Option D:	Inspect
Q25.	Which failure criteria is used for brittle materials
Option A:	von Mises Criteria
Option B:	Maximum shear stress Criteria
Option C:	Tresca Failure Criteria
Option D:	Maximum Principal Stress Failure Criteria

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Question	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	D
Q2.	C
Q3.	C
Q4	A
Q5	A
Q6	A
Q7	A
Q8.	B
Q9.	B
Q10.	C
Q11.	D
Q12.	A
Q13.	A
Q14.	C
Q15.	B
Q16.	C
Q17.	B
Q18.	D
Q19.	D
Q20.	D
Q21.	A
Q22.	D
Q23.	A
Q24.	A
Q25.	D