Program: BE Mechanical Engineering

Curriculum Scheme: Revised 2016

Examination: Fourth Year Semester VII

Course Code: **MEC702** and Course Name: **CAD/CAM/CAE**

Time: 1hour Max. Marks: 50

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

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| Q1.  | Which of the following curve have no computational problems and they are faster in computing time? |
| Option A: | Analytical  |
| Option B: | B-spline |
| Option C: | Synthetic |
| Option D:  | Polynomial curve |
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| Q2. | Which of the following is the default coordinate system? |
| Option A: | User Coordinate System |
| Option B: | World Coordinate System |
| Option C: | Screen Coordinate System |
| Option D: | Home Coordinate System |
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| Q3. | Which of the following is not an analytical entity  |
| Option A: | Line  |
| Option B: | Circle  |
| Option C: | Spline  |
| Option D: | Parabola  |
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| Q4. | Bezier curve having end points P0(1,1) and P3(3,1).The other control point are P1(2,1) and P2(4,3).Also find the midpoint of the curve? |
| Option A: | (2.75,1.75) |
| Option B: | (3,3.25) |
| Option C: | (6.125.2.25) |
| Option D: | (3.75,1.25) |
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| Q5. | What is the full form of UCS |
| Option A: | Universal coordinate system  |
| Option B: | User coordinate system |
| Option C: | Unique coordinate system |
| Option D:  | Uniform coordinate system |
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| Q6. | The transformation which disturbs shape of an object is called: |
| Option A: | Reflection |
| Option B: | Rotation  |
| Option C: | Shear |
| Option D:  | Scaling |
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| Q7.  | To carried out Reflection about any line y= mx + c , Steps are as follows. Select the correct sequence.1. Translate the working coordinate system (WCS) so that the line passes through the origin.2. Reflect about the aligned axis3. Rotate the WCS such that one of the coordinate axis lies onto the line.4. Restore the WCS back by using the inverse rotation and translation transformation. |
| Option A: | 1-2-3-4 |
| Option B: | 1-3-2-4 |
| Option C: | 2-1-3-4 |
| Option D:  | 3-1-2-4 |
|  |  |
| Q8.  | Which is not a type of transformation  |
| Option A: | Translation  |
| Option B: | Scaling |
| Option C: |  Mirror |
| Option D:  | Triangle |
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| Q9. | \_\_\_\_\_\_\_\_ system is a computer program designed and developed for helping the user to solve the decision making problems. |
| Option A: | Knowledge base  |
| Option B: | Expert system |
| Option C: | Inference Engine |
| Option D:  | Intelligent Design |
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| Q10.  |  In which machine we get feedback? |
| Option A: | Lathe machine |
| Option B: | NC machine |
| Option C: | CNC machine |
| Option D:  | Milling machine |
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| Q11.  | The preparatory function refers to \_\_\_\_\_\_\_\_. |
| Option A: | G code |
| Option B: | N code |
| Option C: | Fixed block |
| Option D:  | Block address |
|  |  |
| Q12.  | In a CNC program block, N002 GO2 G91 X40 Z40...., G02 and G91 refer to |
| Option A: | Circular interpolation in counterclockwise direction and incremental dimension |
| Option B: | Circular interpolation in counterclockwise direction and absolute dimension |
| Option C: | Circular interpolation in clockwise direction and incremental dimension |
| Option D: | Circular interpolation in clockwise direction and absolute dimension |
|  |  |
| Q13. |  Circular arc on a part profile is being maclined on a vertical CNC milling machine. CNC part program using metric units with absolute dimensions is listed below:N60 G01 X 30 Y 55 Z -5 F50N70 G02 X 50 Y 35 R 20N80 G01 Z 5 |
| Option A: | (40,45) |
| Option B: | (42,60) |
| Option C: | (40,60) |
| Option D:  | (30,35) |
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| Q14.  | The advantage of using FEA in Engineering Analysis is  |
| Option A: | Boundary conditions cannot be handled effectively |
| Option B: | Material having different material properties can be analysed |
| Option C: | Increases the cost of the design  |
| Option D:  | Only simple Geometry can be analyzed  |
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| Q15. | Kinematic Analysis involves motion and stress analysis of a system |
| Option A: | Stress Analysis |
| Option B: | Motion Analysis |
| Option C: | Deformation Analysis |
| Option D:  | Vibration Analysis |
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| Q16.  | In \_\_\_\_\_\_\_ method the number of elements is increased to have a finer mesh |
| Option A: | p |
| Option B: | h |
| Option C: | p-h |
| Option D:  | h-p |
|  |  |
| Q17. | In Finite Element Method, assemblage of elements is known as \_\_\_\_.  |
| Option A: | Meshing |
| Option B: | Discretization  |
| Option C: | Convergence  |
| Option D: | Reduction |
|  |  |
| Q18. | During the execution of a CNC part program block NO20 GO2 X45.0 Y25.0 R5.0 the type of tool motion will be |
| Option A: | Circular Interpolation – clockwise |
| Option B: | Circular Interpolation – counterclockwise |
| Option C: | Linear Interpolation |
| Option D:  | Rapid feed |
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| Q19.  | Following are the Socio-Techno-Economic aspects of CIM, except |
| Option A: | Technology aspect |
| Option B: | Economic aspect |
| Option C: | Cultural aspect |
| Option D:  | Social aspect |
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| Q20. | The proper defination of CIM is |
| Option A: | CIM is the complete integration and automation of all functions of factory that are related to manufacturing |
| Option B: | CIM is the incomplete integration and automation of all functions of factory that are related to manufacturing |
| Option C: | CIM is the complete integration and automation of some functions of factory that are related to manufacturing |
| Option D: | CIM is the incomplete integration and automation of some functions of factory that are related to manufacturing |
|  |  |
| Q21. |  Computer-integrated manufacturing (CIM) includes manufacturing systems that have |
| Option A: | computer-aided design, a flexible manufacturing system, inventory control, warehousing and shipping integrated |
| Option B: | transaction processing, management information systems and decision support systems integrated |
| Option C: | automated guided vehicles, robots and process control |
| Option D:  | robots, automated guided vehicles and transfer equipment |
|  |  |
| Q22.  | Which of the following RP process uses powders as the starting material?  |
| Option A: | Droplet Deposition Manufacturing |
| Option B: | Fused Deposition Modeling |
| Option C: | Selective Laser Sintering |
| Option D:  | Steriolithography |
|  |  |
| Q23. | The STL file translate the part geometry from a CAD system to\_\_\_\_\_\_\_\_\_. |
| Option A: | CNC machine |
| Option B: | CMM machine |
| Option C: | CAPP machine |
| Option D:  | RP machine |
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| Q24.  | Filament is used in which RPT method |
| Option A: | FDM |
| Option B: | SLA |
| Option C: | SLS |
| Option D:  | LOM |
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| Q25. |  All triangle coordinates within an STL file must be\_\_\_\_\_\_\_. |
| Option A: | negative |
| Option B: | positive |
| Option C: | zero |
| Option D:  | symmetric |