Date: 01/02/23

To,
Campus Director,
ICEEM
Aurangabad.

Subject: Proposal for Introducing a Course in "Solid Works" for SE MECH Students for the Academic Year 2022-23

Respected Sir,

I am writing to propose the Introducing a Course in "Solid Works" for SE MECH Students for the Academic Year 2022-23

This course explores the basics of Solid Works software. Students will learn to the use of Solid Works software through various sessions during this course.

I believe that introducing this course will significantly benefit our students and enhance the academic standards of our Mechanical Department. I kindly request you to consider this proposal and approve the introduction of "Solid Works" as a part of the curriculum for the upcoming academic semester.
Thank you for considering my request. I am looking forward to your positive response.

The course Objectives, Course outline and Marking Scheme with Assessment are attached herewith this application.

Yours sincerely,

Prof. S. B. Janjal
Head of Mechanical Department

CAMPUS DIRECTOR
International Centre of
Excellence In Engg. & MGMT.
Aurangabad

Course Objectives:

1. **Introduction to Solid Works**: Familiarizing students with the interface, commands, and tools available in Solid Works.
2. **Drawing and Editing**: Teaching students how to create and modify 2D and 3D drawings using various drawing and editing commands.
3. **Layer Management**: Understanding the concept of layers in Solid Works and learning how to effectively organize drawings using layers.
4. **Dimensioning and Annotation**: Teaching students how to add dimensions and annotations to drawings to convey necessary information.
5. **Blocks and Attributes**: Introducing students to creating and using blocks and attributes to improve drawing efficiency and consistency.
6. **Basic 3D Modeling**: Providing an introduction to 3D modeling techniques in Solid Works, including creating basic 3D shapes and objects.
7. **Rendering and Visualization**: Exploring rendering options and visualization techniques to create realistic representations of 3D models.
8. **Customization**: Allowing students to customize Solid Works settings, tool palettes, and templates to suit specific workflow needs.
9. **Collaboration and Output**: Teaching methods for sharing Solid Works drawings with others, including plotting, publishing, and exporting files in various formats.
10. **Problem Solving and Troubleshooting**: Developing skills in identifying and resolving common issues encountered while using Solid Works.

Course Outline:

By the end of the course, students will be able to:

Effectively use Solid Works as a professional tool for design, drafting, and collaboration in various industries requiring precision and accuracy in technical drawings and 3D modeling.

Benefits to Students:

Studying Solid Works offers several benefits to students such as

1. **Improved Technical Skills**: Mastery of Solid Works software enhances students' technical proficiency in computer-aided design (CAD), allowing them to create precise and detailed drawings efficiently.
2. **Career Readiness**: Solid Works proficiency is a valuable asset in industries such as architecture, engineering, construction, manufacturing, and product design, making students more attractive to employers.

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3. **Increased Employability**: Knowledge of Solid Works opens doors to a wide range of job opportunities, including roles as CAD drafters, designers, technicians, and engineers.
4. **Efficiency and Productivity**: Solid Works's tools and features streamline the design process, enabling students to produce drawings faster and with greater accuracy compared to traditional methods.
5. **Enhanced Design Visualization**: Students can create 2D drawings and 3D models that visualize concepts and designs effectively, aiding in communication and presentation of ideas.
6. **Collaborative Skills**: Solid Works facilitates collaboration among team members by allowing them to work on the same project simultaneously, share files, and manage revisions efficiently.
7. **Professional Development**: Learning Solid Works enhances students' professional development by preparing them for industry standards and practices, including the ability to adhere to drawing standards and conventions.
8. **Problem-Solving Abilities**: Solid Works teaches students how to analyze design problems and find solutions using CAD tools and techniques, fostering critical thinking and problem-solving skills.
9. **Certification Opportunities**: Many Solid Works courses offer preparation for Autodesk certification exams, which can validate students' skills and enhance their credibility in the job market.
10. **Foundation for Advanced Learning**: Proficiency in Solid Works provides a solid foundation for students interested in pursuing further education or training in specialized areas of CAD software or related fields.

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Solid Works Assessment

Multiple-Choice Questions (MCQs) Test Paper (20 Marks)

Question 1:

Which feature in SolidWorks is used to create a solid body by revolving a sketch around an axis?

A) Extrude
B) Revolve
C) Sweep
D) Loft
Answer: B) Revolve

Question 2:

What is the primary purpose of the `Fillet` feature in SolidWorks?

A) To create holes in a part
B) To round the edges of a part
C) To add material to a part
D) To create a shell around a part
Answer: B) To round the edges of a part

Question 3:

Which SolidWorks tool would you use to duplicate a part feature along a specified path?

A) Linear Pattern
B) Circular Pattern
C) Sweep
D) Path Pattern
Answer: C) Sweep

Question 4:

What is the use of the `Shell` feature in SolidWorks?

A) To add material to a part
B) To hollow out a part
C) To create a fillet
D) To mirror a part
Answer: B) To hollow out a part

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Aurangabad

Question 5:

In SolidWorks, what does the `Mate` feature do in an assembly?

A) Moves components together
B) Joins components together with specific relations
C) Removes material from components
D) Adds components to an assembly
Answer: B) Joins components together with specific relations

Question 6:

Which command in SolidWorks is used to create a new sketch on a model face?

A) New Sketch
B) Edit Sketch
C) Insert Sketch
D) Create Sketch
Answer: A) New Sketch

Question 7:

What does the `Loft` feature in SolidWorks allow you to do?

A) Create a feature by sweeping a profile along a path
B) Create a feature by revolving a profile around an axis
C) Create a feature by blending multiple profiles
D) Create a feature by extruding a profile
Answer: C) Create a feature by blending multiple profiles

Question 8:

Which feature is used to create a helical curve in SolidWorks?

A) Helix/Spiral
B) Sweep
C) Revolve
D) Extrude
Answer: A) Helix/Spiral

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Question 9:

What is the purpose of the `Draft` feature in SolidWorks?

A) To add text to a part
B) To create an angled surface on a part
C) To mirror a part
D) To round off edges
Answer: B) To create an angled surface on a part

Question 10:

In SolidWorks, which tool would you use to measure the distance between two points on a model?

A) Distance
B) Measure
C) Dimension
D) Evaluate
Answer: B) Measure

Marking Scheme

Sr. No.	Assessment Component	Marks Allocation
1	Multiple-Choice Questions (MCQ)	20 marks
2	Total	20 marks

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International Centre of
Excellence In Engg. & MGMT.
Aurangabad

Date: 01/02/2023

To,

Head of Mechanical Engg.

ICEEM

Aurangabad,

Subject: Sanction for the Introduction of the Course "Solid Works" for SE Students for the Academic Year 2022-23

Dear Sir,

I am pleased to inform you that the College Development Committee has reviewed and approved your proposal to introduce the course " Solid Works " for the SE Mech students in the Mechanical Engg Department for the academic year 2022-23

We commend your initiative in proposing this course, which aligns with the college's commitment to providing our students with up-to-date and relevant educational opportunities. Approved Course Details:

Course Title: Solid Works

Department: Mechanical Engg.

Level: UG

Academic Year: 2022-23

Campus Director

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International Centre of
Excellence In Engg. & MGMT.
Aurangabad

Certificate Course Distrubtion Record Mech. Year:-2022-2023

Course Name:- Solid Works

Sr No.	Name of Student	Signature
1	AHIRE KRUSHNA ASHOK	
2	BHIVSANE KULDEEP SADU	
3	DABHADE UDDHAV RAOSAHEB	
4	DAIMIVAL KRUSHNAKANT VITTHAL	
5	DEORE PRAJAKTA SATISH	
6	DUDHWADE SHUBHAM VIJAY	
7	GAWADE SHUBHAM SUDAM	
8	GIRI DIPAK RAJU	
9	HANMANTE DEEPAK HANMANT	
10	INGLE PRATIKSHA BHAGWAN	
11	JADHAV ADITYA DINESH	
12	JADHAV AKASH SHANKAR	
13	JADHAV RUPALI TANHAJI	
14	JAYASWAL VIKAS KAILASCHANDRA	
15	JOSHI PRAKASH RADHAKRISHNA	
16	KAKADE YAMINEE DADARAO	
17	KAWADE VEDANT NAVNATH	
18	KOLTE VAIBHAV KALYAN	
19	KULKARNI NIKHIL	
20	KULKARNI OMKAR PRAKASH	
21	KULKARNI SHIVAM PRAKASH	
22	MANNA AMIT	
23	MEHTRE DIPAK SAHEBRAO	
24	MOHITE SAGAR MADHUKAR	
25	NIKAM SAISIDDHANT DADASAHEB	
26	PARSAIYA VINOD SANJAY	
27	PATHAN ALTAMASH SATTAR	
28	PAWAR ROSHAN VILAS	
29	PAWAR SUSHANT SUNIL	
30	SURASE RAHUL TARACHAND	
31	TRIBHUVAN RUPESH SURESH	
32	SALVE SANJAY SUDHAKAR	
33	SONAWANE AKASH SANJAY	
34	SONAWANE RITESH SURESH	
35	SONPASARE GANESH MILIND	

CAMPUS DIRECTOR
International Centre of
Excellence in Engg. & MGMT.
Aurangabad

Date: 07/02/23

To,
Campus Director,
ICEEM
Aurangabad.

Subject: Proposal for Introducing a Course in "Advance AutoCAD" for TE MECH Students for the Academic Year 2022-23

Respected Sir,

I am writing to propose the Introducing a Course in "Advance AutoCAD" for TE MECH Students for the Academic Year 2022-23

This course explores the basics of Advance AutoCAD software. Students will learn to the use of AutoCAD software through various sessions during this course.

I believe that introducing this course will significantly benefit our students and enhance the academic standards of our Mechanical Department. I kindly request you to consider this proposal and approve the introduction of "Advance AutoCAD" as a part of the curriculum for the upcoming academic semester. Thank you for considering my request. I am looking forward to your positive response.

The course Objectives, Course outline and Marking Scheme with Assessment are attached herewith this application.

Yours sincerely,

Prof. S. B. Janjal
Head of Mechanical Department

CAMPUS DIRECTOR
International Centre of
Excellence In Engg. & MGMT.
Aurangabad

Course Objectives:

1. **Introduction to Advance AutoCAD**: Familiarizing students with the interface, commands, and tools available in Advance AutoCAD.
2. **Drawing and Editing**: Teaching students how to create and modify 2D and 3D drawings using various drawing and editing commands.
3. **Layer Management**: Understanding the concept of layers in Advance AutoCAD and learning how to effectively organize drawings using layers.
4. **Dimensioning and Annotation**: Teaching students how to add dimensions and annotations to drawings to convey necessary information.
5. **Blocks and Attributes**: Introducing students to creating and using blocks and attributes to improve drawing efficiency and consistency.
6. **Basic 3D Modeling**: Providing an introduction to 3D modeling techniques in Advance AutoCAD, including creating basic 3D shapes and objects.
7. **Rendering and Visualization**: Exploring rendering options and visualization techniques to create realistic representations of 3D models.
8. **Customization**: Allowing students to customize Advance AutoCAD settings, tool palettes, and templates to suit specific workflow needs.
9. **Collaboration and Output**: Teaching methods for sharing Advance AutoCAD drawings with others, including plotting, publishing, and exporting files in various formats.
10. **Problem Solving and Troubleshooting**: Developing skills in identifying and resolving common issues encountered while using Advance AutoCAD.

Course Outline:

By the end of the course, students will be able to:

Effectively use Advance AutoCAD as a professional tool for design, drafting, and collaboration in various industries requiring precision and accuracy in technical drawings and 3D modeling.

Benefits to Students:

Studying Advance AutoCAD offers several benefits to students such as

1. **Improved Technical Skills**: Mastery of Advance AutoCAD software enhances students' technical proficiency in computer-aided design (CAD), allowing them to create precise and detailed drawings efficiently.
2. **Career Readiness**: Advance AutoCAD proficiency is a valuable asset in industries such as architecture, engineering, construction, manufacturing, and product design, making students more attractive to employers.

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3. **Increased Employability**: Knowledge of Advance AutoCAD opens doors to a wide range of job opportunities, including roles as CAD drafters, designers, technicians, and engineers.
4. **Efficiency and Productivity**: Advance AutoCAD's tools and features streamline the design process, enabling students to produce drawings faster and with greater accuracy compared to traditional methods.
5. **Enhanced Design Visualization**: Students can create 2D drawings and 3D models that visualize concepts and designs effectively, aiding in communication and presentation of ideas.
6. **Collaborative Skills**: Advance AutoCAD facilitates collaboration among team members by allowing them to work on the same project simultaneously, share files, and manage revisions efficiently.
7. **Professional Development**: Learning Advance AutoCAD enhances students' professional development by preparing them for industry standards and practices, including the ability to adhere to drawing standards and conventions.
8. **Problem-Solving Abilities**: Advance AutoCAD teaches students how to analyze design problems and find solutions using CAD tools and techniques, fostering critical thinking and problem-solving skills.
9. **Certification Opportunities**: Many Advance AutoCAD courses offer preparation for Autodesk certification exams, which can validate students' skills and enhance their credibility in the job market.
10. **Foundation for Advanced Learning**: Proficiency in Advance AutoCAD provides a solid foundation for students interested in pursuing further education or training in specialized areas of CAD software or related fields.

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Advance AutoCAD Assessment

Multiple-Choice Questions (MCQs) Test Paper (20 Marks)

Question 1:

Which command allows you to draw a spline in AutoCAD?

A) PLINE
B) SPLINE
C) LINE
D) ARC
Answer: B) SPLINE

Question 2:

What is the function of the `XREF` command in AutoCAD?

A) To create external references
B) To create a block
C) To trim objects
D) To extend objects
Answer: A) To create external references

Question 3:

How do you create an array of objects in a circular pattern?

A) ARRAYRECT
B) ARRAYPOLAR
C) ARRAYPATH
D) MIRROR
Answer: B) ARRAYPOLAR

Question 4:

Which command would you use to join multiple line segments into a single polyline?

A) JOIN
B) SPLINE
C) PLINE
D) PEDIT
Answer: D) PEDIT

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Question 5:

What is the purpose of the PURGE command?

A) To delete unwanted objects
B) To clean up the drawing
C) To reduce file size
D) All of the above
Answer: D) All of the above

Question 6:

Which command allows you to create a 3D solid by sweeping a 2D profile along a path?

A) EXTRUDE
B) REVOLVE
C) SWEEP
D) LOFT
Answer: C) SWEEP

Question 7:

What does the UCSICON command do?

A) Toggles the display of the User Coordinate System icon
B) Changes the current UCS
C) Saves the current UCS
D) Resets the UCS to default
Answer: A) Toggles the display of the User Coordinate System icon

Question 8:

Which layer management tool would you use to isolate a layer for editing?

A) LAYER FREEZE
B) LAYER ISOLATE
C) LAYER LOCK
D) LAYER THAW
Answer: B) LAYER ISOLATE

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Question 9:

What is the purpose of the MATCHPROP command?

A) To match properties from one object to another
B) To create a new layer
C) To measure the distance between objects
D) To trim objects
Answer: A) To match properties from one object to another

Question 10:

Which command can be used to create a region from a closed polyline or other closed objects?

A) REGION
B) POLYLINE
C) BOUNDARY
D) TRIM
Answer: A) REGION

Marking Scheme

Sr. No.	Assessment Component	Marks Allocation
1	Multiple-Choice Questions (MCQ)	20 marks
2	Total	20 marks

Head of Mechanical Engineering

CAMPUS DIRECTOR
International Centre of
Excellence In Engg. & MGMT.
Aurangabad

Date: 01/02/2023

To,

Head of Mechanical Engg.

ICEEM

Aurangabad,

Subject: Sanction for the Introduction of the Course "Advance AutoCAD" for TE Students for the Academic Year 2022-23

Dear Sir,

I am pleased to inform you that the College Development Committee has reviewed and approved your proposal to introduce the course " Advance AutoCAD " for the TE Mech students in the Mechanical Engg Department for the academic year 2022-23

We commend your initiative in proposing this course, which aligns with the college's commitment to providing our students with up-to-date and relevant educational opportunities. Approved Course Details:

Course Title: Advance AutoCAD

Department: Mechanical Engg.

Level: UG

Academic Year: 2022-23

Campus Director

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Excellence In Engg. & MGMT.
Aurangabad

Certificate Course Distrubtion Record Mech. Year:-2022-2023

Course Name:- Advance AutoCAD

Sr No.	Name of Student	Signature
1	ABUJ ASHOK SUKHDEV	
2	ASWALE SHIVAM BANDU	
3	BIRAJDAR SHYAMRAO ASHOK	
4	CHATSE MAMTA MADHAV	
5	GIRAM DNYANESHWAR VISHNU	
6	KALE KIRAN VIJAY	
7	KAPURE MAYUR GOVIND	
8	KHURESHI ZAHIR CHANDPASHA	
9	KOLHE ABHISHEK ANIL	
10	MUNJEWAR HANMANT LAXMAN	
11	PANCHAL BALANAND ISHWAR	
12	RUTUJA SANJEEV MALI	
13	SANT SATISH RAMESH	
14	SHELKE GANESH MARIBA	
15	SHUBHAM DNYANESHWAR LOHAKANE	
16	SUMIT VILAS SONWANE	
17	VAIBHAV SURESH WANKHEDE	
18	WAGHMARE RUSHIKESH RAMESH	
19	LINGAYAT SHUBHAM NEMINATH	
20	MIRIKAR PARAG SUNIL	
21	NILAJKAR ADARSH ASHOK	
22	PATHADE ASHOK GORAKH	
23	SATPUTE GANESH ABASAHEB	
24	WAGHMARE PRANITA RADHAJI	
25	NIKAM SAISIDDHANT DADASAHEB	

CAMPUS DIRECTOR
International Centre of
Excellence In Engg. & MGMT.
Aurangabad

Date: 01/02/23

To,
Campus Director,
ICEEM
Aurangabad.

Subject: Proposal for Introducing a Course in "3-D Printing" for BE MECH Students for the Academic Year 2022-23

Respected Sir,

I am writing to propose the Introducing a Course in "3-D Printing" for BE MECH Students for the Academic Year 2022-23

This course explores the basics of 3-D Printing software. Students will learn to the use of 3-D Printing Machine through various sessions during this course.

I believe that introducing this course will significantly benefit our students and enhance the academic standards of our Mechanical Department. I kindly request you to consider this proposal and approve the introduction of "3-D Printing" as a part of the curriculum for the upcoming academic semester.
Thank you for considering my request. I am looking forward to your positive response.

The course Objectives, Course outline and Marking Scheme with Assessment are attached herewith this application.

Yours sincerely,

Prof. S. B. Janjal
Head of Mechanical Department

CAMPUS DIRECTOR
International Centre of
Excellence In Engg. & MGMT.
Aurangabad

Course Objectives:

- To Gain a thorough understanding of the history, evolution, and current trends in 3D printing.
- To Identify and differentiate between various 3D printing technologies such as Fused Deposition Modeling (FDM), Stereolithography (SLA), Selective Laser Sintering (SLS), and others.
- To Understand the advantages and limitations of different 3D printing methods.

- To Develop skills in 3D design and modeling using industry-standard software such as TinkerCAD, Fusion 360, and Blender.
- To Create and manipulate 3D models, ensuring they are optimized for 3D printing.
- To Apply design principles for additive manufacturing to create functional and aesthetically pleasing objects.

Course Outline:

Module 1: Introduction to 3D Printing

- History and Evolution of 3D Printing
- Types of 3D Printing Technologies (FDM, SLA, SLS, etc.)
- Applications of 3D Printing in Various Industries

Module 2: 3D Printing Hardware and Materials

- Overview of 3D Printers and Their Components
- Understanding Different Printing Materials (PLA, ABS, Resin, etc.)
- Choosing the Right Printer and Material for Your Project

Module 3: 3D Design and Modeling.

- Introduction to 3D Design Software (TinkerCAD, Fusion 360, Blender, etc.)
- Basics of 3D Modeling
- Creating 3D Models for Printing

Module 4: Slicing and Preparing Models for Printing

- Introduction to Slicing Software (Cura, PrusaSlicer, etc.)
- Optimizing Models for 3D Printing
- Setting Up Print Parameters (Layer Height, Infill, Supports, etc.)

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Module 5: 3D Printing Process

- Setting Up and Calibrating a 3D Printer
- Loading Filament and Preparing the Print Bed

- Printing Your First Object
- Troubleshooting Common Printing Issues

Module 6: Post-Processing Techniques

- Removing Supports and Cleaning the Print
- Sanding, Painting, and Finishing Techniques
- Assembling Multi-Part Prints

Module 7: Advanced 3D Printing Techniques

- Dual Extrusion and Multi-Material Printing
- Printing with Flexible and Exotic Materials
- Using 3D Scanning and Photogrammetry

Module 8: Applications and Case Studies

- 3D Printing in Prototyping and Product Development
- Medical and Dental Applications
- Architectural and Engineering Uses
- Customization and Mass Personalization

Module 9: Industry Standards and Best Practices

- Understanding 3D Printing Standards and Certifications
- Ensuring Quality and Consistency in 3D Prints
- Safety Practices and Maintenance of 3D Printers

Module 10: Future Trends and Innovations in 3D Printing

- Emerging Technologies and Materials
- 3D Printing in Space and Extreme Environments
- The Role of 3D Printing in Sustainable Manufacturing

Certification Requirements

- Attendance and Participation in All Modules
- Completion of Hands-On Projects and Assignments
- Passing Final Assessment (Written Exam and Practical Test)
- Submission of a Capstone Project (Design and Print a Complex Object)

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Potential Providers

- **Coursera**: Offers various courses in 3D Printing from top universities and companies.
- **Udemy**: Hosts numerous 3D Printing courses that cater to different levels of expertise.
- **LinkedIn Learning**: Provides courses on 3D Printing fundamentals and applications.
- **Local Universities and Technical Schools**: Often have specialized programs or workshops on 3D Printing.

Benefits of Certification

- Enhanced Knowledge and Skills in 3D Printing
- Practical Experience with Various 3D Printing Technologies and Materials
- Improved Job Prospects in Fields Such as Engineering, Design, and Manufacturing

3-D Printing Assessment

Multiple-Choice Questions (MCQs) Test Paper (20 Marks)

Question 1:

Which of the following is NOT a common type of 3D printing technology?

A) Fused Deposition Modeling (FDM)
B) Stereolithography (SLA)
C) Selective Laser Sintering (SLS)
D) Traditional Subtractive Manufacturing (TSM)
Answer: D) Traditional Subtractive Manufacturing (TSM)

Question 2:

What material is commonly used in Fused Deposition Modeling (FDM) 3D printers?

A) PLA
B) ABS
C) Resin
D) All of the above
Answer: D) All of the above

Question 3:

In 3D printing, what does the term "slicing" refer to?

A) Cutting the model into smaller pieces
B) Dividing the model into layers for printing
C) Trimming excess material from the print
D) Creating support structures
Answer: B) Dividing the model into layers for printing

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International Centre of
Excellence In Engg. & MGMT.
Aurangabad

Question 4:

Which 3D printing technology uses a liquid photopolymer that is cured by a UV laser?

A) FDM
B) SLA
C) SLS
D) DLP
Answer: B) SLA

Question 5:

What is the primary function of support structures in 3D printing?

A) To strengthen the model
B) To prevent the model from warping
C) To provide a foundation for overhanging sections of the print
D) To reduce material usage
Answer: C) To provide a foundation for overhanging sections of the print

Question 6:

Which 3D printing process uses powdered material and a laser to fuse the powder into solid parts?

A) FDM
B) SLA
C) SLS
D) DLP
Answer: C) SLS

Question 7:

What is the advantage of using PLA over ABS in FDM printing?

A) Higher melting temperature
B) More flexibility
C) Biodegradability and ease of use
D) Better mechanical strength
Answer: C) Biodegradability and ease of use

Question 8:

In 3D printing, what does the term "infill" refer to?

A) The outer surface of the print
B) The internal structure of the print
C) The first layer of the print
D) The supports for the print
Answer: B) The internal structure of the print

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International Centre of
Excellence In Engg. & MGMT.
Aurangabad

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Research to reality.... NAAC Accredited
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Question 9:

Which file format is most commonly used for 3D printing?

A) .OBJ
B) .STL
C) .FBX
D) .DWG
Answer: B) .STL

Question 10:

What is the purpose of post-processing in 3D printing?

A) To prepare the model for printing
B) To enhance the appearance and functionality of the printed object
C) To slice the model into layers
D) To load the filament into the printer
Answer: B) To enhance the appearance and functionality of the printed object

Marking Scheme

Sr. No.	Assessment Component	Marks Allocation
1	Multiple-Choice Questions (MCQ)	20 marks
2	Total	20 marks

CAMPUS DIRECTOR
International Centre of
Excellence In Engg. & MGMT.
Aurangabad

Date: 01/02/2023

To,

Head of Mechanical Engg.

ICEEM

Aurangabad,

Subject: Sanction for the Introduction of the Course "3-D Printing" for BE Students for the Academic Year 2022-23

Dear Sir,

I am pleased to inform you that the College Development Committee has reviewed and approved your proposal to introduce the course " 3-D Printing " for the BE Mech students in the Mechanical Engg Department for the academic year 2022-23

We commend your initiative in proposing this course, which aligns with the college's commitment to providing our students with up-to-date and relevant educational opportunities. Approved Course Details:

Course Title: 3-D Printing

Department: Mechanical Engg.

Level: UG

Academic Year: 2022-23

Campus Director

CAMPUS DIRECTOR
International Centre of
Excellence In Engg. & MGM
Aurangabad

Certificate Course Distrubtion Record Mech. Year:-2022-2023

Course Name:- 3-D Printing

Sr No.	Name of Student	Signature
1	AHIRE POOJA SITARAM	
2	AJAB AMOL TUKARAM	
3	ARBAD AKSHAY GANPAT	
4	BAMNOTE HARSHAL RAVINDRA	
5	BHAJIBHAKRE PRATIK	
6	Bhusare vishal krushana	
7	DAMBALE KIRAN MADHUKAR	
8	DAPKE SUMIT	
9	DIWATE SUYOG KAILAS	
10	GANGWE DINESH SHIVRAM	
11	JAWALE SACHIN ASHOK	
12	KAMBALE RAHUL RAMESH	
13	KHANDAGALE MAHESH NILESH	
14	KOLI GANESH SOMNATH	
15	LOHAKARE KRUSHNA DATTATRA	
16	MALI REVATI MANOHAR	
17	MEHRA KANHIYA JOGENDRA	
18	MESHRAM SHUBHAM DNYANESHWAR	
19	MIRGE TUSHAR DATTATRAY	
20	MULE SANKET RAJABHAU	
21	NAIK MANGESH DADARAO	
22	NARKHEDE KAUSHAL JITENDRA	
23	NIKAM RUPALI RAJENDRA	
24	NIMROT AJAY DHANSING	
25	PATIL ABHISHEK MAHENDRA	
26	PATIL SURAJ DHANAJIRAO	
27	PATIL YOGESH ISHWAR	
28	SATDIVE AKASH BHAUSAHEB	
29	SHAIKH SAJID AYAJ	
30	SHELKE KRISHNA EKNATH	
31	SHINDE JANARDHAN RAJDHAR	
32	Shinde mangesh vasantrao	
33	SONAWANE ASHISH SUJIT	
34	SONAWANE HARSHAL VISHAWASRAO	
35	SONAWANE SAGAR PRAVIN	
36	SONKAMBLE SHUBHAM MILIND	

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37	TAMBE DNYANESHWARI SHARAD	
38	VANTALE PRERANA BHASKAR	
39	WAWRE DNYANESHWAR ATMARAM	
40	WAKODE ANIKET DEVIDAS	

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International Centre of
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Aurangabad

Date: 25/04/2022

To,
Campus Director,
ICEEM
Aurangabad.

Subject: Proposal for Introducing a Course in "AutoCAD" for SE MECH Students for the Academic Year 2021-22

Respected Sir,

I am writing to propose the Introducing a Course in "AutoCAD" for SE MECH Students for the Academic Year 2021-22

This course explores the basics of AutoCAD software. Students will learn to the use of AutoCAD software through various sessions during this course.

I believe that introducing this course will significantly benefit our students and enhance the academic standards of our Mechanical Department. I kindly request you to consider this proposal and approve the introduction of "AutoCAD" as a part of the curriculum for the upcoming academic semester.
Thank you for considering my request. I am looking forward to your positive response.

The course Objectives, Course outline and Marking Scheme with Assessment are attached herewith this application.

Yours sincerely,

Prof. S. B. Janjal
Head of Mechanical Department

CAMPUS DIRECTOR
International Centre of
Excellence In Engg. & MGMT.
Aurangabad

Course Objectives:

1. **Introduction to AutoCAD**: Familiarizing students with the interface, commands, and tools available in AutoCAD.
2. **Drawing and Editing**: Teaching students how to create and modify 2D and 3D drawings using various drawing and editing commands.
3. **Layer Management**: Understanding the concept of layers in AutoCAD and learning how to effectively organize drawings using layers.
4. **Dimensioning and Annotation**: Teaching students how to add dimensions and annotations to drawings to convey necessary information.
5. **Blocks and Attributes**: Introducing students to creating and using blocks and attributes to improve drawing efficiency and consistency.
6. **Basic 3D Modeling**: Providing an introduction to 3D modeling techniques in AutoCAD, including creating basic 3D shapes and objects.
7. **Rendering and Visualization**: Exploring rendering options and visualization techniques to create realistic representations of 3D models.
8. **Customization**: Allowing students to customize AutoCAD settings, tool palettes, and templates to suit specific workflow needs.
9. **Collaboration and Output**: Teaching methods for sharing AutoCAD drawings with others, including plotting, publishing, and exporting files in various formats.
10. **Problem Solving and Troubleshooting**: Developing skills in identifying and resolving common issues encountered while using AutoCAD.

Course Outline:

By the end of the course, students will be able to:

Effectively use AutoCAD as a professional tool for design, drafting, and collaboration in various industries requiring precision and accuracy in technical drawings and 3D modeling.

Benefits to Students:

Studying AutoCAD offers several benefits to students such as

1. **Improved Technical Skills**: Mastery of AutoCAD software enhances students' technical proficiency in computer-aided design (CAD), allowing them to create precise and detailed drawings efficiently.
2. **Career Readiness**: AutoCAD proficiency is a valuable asset in industries such as architecture, engineering, construction, manufacturing, and product design, making students more attractive to employers.

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3. **Increased Employability**: Knowledge of AutoCAD opens doors to a wide range of job opportunities, including roles as CAD drafters, designers, technicians, and engineers.
4. **Efficiency and Productivity**: AutoCAD's tools and features streamline the design process, enabling students to produce drawings faster and with greater accuracy compared to traditional methods.
5. **Enhanced Design Visualization**: Students can create 2D drawings and 3D models that visualize concepts and designs effectively, aiding in communication and presentation of ideas.
6. **Collaborative Skills**: AutoCAD facilitates collaboration among team members by allowing them to work on the same project simultaneously, share files, and manage revisions efficiently.
7. **Professional Development**: Learning AutoCAD enhances students' professional development by preparing them for industry standards and practices, including the ability to adhere to drawing standards and conventions.
8. **Problem-Solving Abilities**: AutoCAD teaches students how to analyze design problems and find solutions using CAD tools and techniques, fostering critical thinking and problem-solving skills.
9. **Certification Opportunities**: Many AutoCAD courses offer preparation for Autodesk certification exams, which can validate students' skills and enhance their credibility in the job market.
10. **Foundation for Advanced Learning**: Proficiency in AutoCAD provides a solid foundation for students interested in pursuing further education or training in specialized areas of CAD software or related fields.

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AutoCAD Assessment

Multiple-Choice Questions (MCQs) Test Paper (20 Marks)

1. What does CAD stand for?

A. Computer Aided Design

B. Computer Aided Drafting

C. Computer Aided Drawing

D. Computer Aided Dimensioning

Answer: A

2. Which of the following is NOT a typical AutoCAD workspace environment?

A. Drafting & Annotation

B. 3D Modeling

C. Animation

D. AutoCAD Classic

Answer: C

3. Which AutoCAD command is used to draw a circle?

A. Line

B. Rectangle

C. Circle

D. Arc

Answer: C

4. What is the purpose of the Trim command in AutoCAD?

A. To extend a line or object

B. To remove parts of objects that overlap

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C. To create multiple copies of an object

D. To rotate an object around a specified point

Answer: B

5. Which command is used to change the properties of selected objects in AutoCAD?

A. Properties

B. Modify

C. Change

D. Adjust

Answer: A

6. In AutoCAD, what are layers used for?

A. To group objects for easy selection

B. To apply different colors and linetypes to objects

C. To create 3D objects

D. To change the drawing scale

Answer: B

7. Which dimensioning command in AutoCAD is used to measure the angle between two lines?

A. Linear

B. Aligned

C. Angular

D. Radius

Answer: C

8. Which command is used to create a 3D solid box in AutoCAD?

A. Box

B. Cube

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C. Extrude

D. Solid

Answer: A

9. What does UCS stand for in AutoCAD?

A. Unified Coordinate System

B. User Coordinate System

C. Universal Coordinate System

D. Uniform Coordinate System

Answer: B

10. Which AutoCAD feature allows you to create and manage custom tools and tool palettes?

A. Tool Manager

B. Tool Organizer

C. Tool Palette

D. Tool Wizard

Answer: C

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Aurangabad

Marking Scheme

Sr. No.	Assessment Component	Marks Allocation
1	Multiple-Choice Questions (MCQ)	20 marks
2	Total	20 marks

Kindly, consider it.

Thank you.

Head of Mechanical Department

CAMPUS DIRECTOR
International Centre of
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Aurangabad

Date: 28/4/2022

To,

Head of Mechanical Engg.

ICEEM

Aurangabad,

Subject: Sanction for the Introduction of the Course "Auto CAD" for SE Students for the Academic Year 2021-22

Dear Sir,

I am pleased to inform you that the College Development Committee has reviewed and approved your proposal to introduce the course " Auto CAD " for the SE Mech students in the Mechanical Engg Department for the academic year 2021-22

We commend your initiative in proposing this course, which aligns with the college's commitment to providing our students with up-to-date and relevant educational opportunities. Approved Course Details:

Course Title: Auto CAD

Department: Mechanical Engg.

Level: UG

Academic Year: 2021-22

Campus Director

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Aurangabad

Certificate Course Distrubtion Record Mech. Year:-2021-2022

Course Name:- AutoCAD

Sr No.	Name of Student	Signature
1	AKHADE GOVARDHAN SANJAY	
2	ASWALE SHIVAM BANDU	
3	AVHALE SAGAR GORAKH	
4	BAHALSKAR SAINATH WALMIK	
5	SUBHASH SHRAVAN BAKHALE	
6	BANDAL ANIKET DATTATRAY	
7	KAPIL GANGADHAR BEKNALE	
8	BHURBHURE BADRINATH SHESHARAO	
9	BIRAJDAR SHYAMRAO ASHOK	
10	BORULKAR SURESH KISHOR	
11	CHATSE MAMTA MADHAV	
12	CHAUDHARI HARSHAL KAILAS	
13	CHAUDHARI ROHIT VISHNU	
14	CHAVAN KALPESH SHIVDAS	
15	RUSHIKESH SUBHASH CHAVAN	
16	CHINTAMANI VASANT MAHADEV	
17	DABHADE SANDHYA	
18	DHERE AJAY RAJARAM	
19	SIDDHESHWAR BHIMRAO DHOLE	
20	DIXIT AADESH JEEETENDRA	
21	DOIPHODE ADINATH ASHRUJI	
22	DUBILE RAHUL BALU	
23	GAVHANE SACHIN SANJAY	
24	GAWANDE AKSHAY DATTU	
25	GHODKE KIRAN KRASHNAT	
26	GIRAM DNYANESHWAR VISHNU	
27	GIRI AKSHAY AMAR	
28	GOLHAR SACHIN KAILAS	
29	JADHAV RAMESHWAR SURESH	
30	JAWALE SHUBHAM PRAMOD	
31	KAKDE ABHISHEK PAPPU	
32	KALAM SANDEEP AMBADAS	
33	KIRAN VIJAY KALE	
34	KALE RENUKA GORAKH	
35	KALE SHUBHAM ANNASAHEB	
36	KALE VISHAL DNYANESHWAR	

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Aurangabad

37	KALE AMAR SHIVRAJ	
38	KAMBLE RAVINDRA JALINDAR	
39	KAPURE MAYUR GOVIND	
40	KATE RUTUJA SANJAY	
41	KHAIRE VYANKATESH VITTHAL	
42	KHAN SAHIL ARSHAD	
43	KHEDKAR AKSHAY PRABHAKAR	
44	KHURESHI ZAHIR CHANDPASHA	
45	KOLHE ABHISHEK ANIL	
46	KUHILE RAHUL BABASAHEB	
47	KUTE SURAJ GAJANAN	
48	LINGAYAT SHUBHAM NEMINATH	
49	LOHAKANE SHUBHAM DNYANESHWAR	
50	MALI RUTUJA SANJEEV	
51	MEHETRE AKASH DIPAKRAO	
52	MESTRY HARSHAD SANJAY	
53	MIRIKAR PARAG SUNIL	
54	MUNJEWAR HANMANT LAXMAN	
55	MURKUTE PRAVIN SURYABHAN	
56	NAKHATE DNYANESHWAR DATTATRAY	
57	NARWADE RAMDHYANI KISAN	
58	NARWADE SHUBHAM SUBHASH	
59	RUSHIKESH SADASHIV NAVALE	
60	NIKALE MAHESH BALU	
61	ADARSH ASHOK NILAJKAR	
62	PANCHAL BALANAND ISHWARRAO	
63	PATHADE ASHOK GORAKH	
64	PATIL PRANAY UMESH	
65	PAWAR KISHOR BHAGWAN	
67	Phate Rameshwar	
68	PHOLANE ANIKET SANJAY	
69	JIGNESH ARVIND PRAJAPATI	
70	RAHATWAD GANESH VALMIK	

CAMPUS DIRECTOR
International Centre of
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Aurangabad

Date: 25/04/2022

To,
Campus Director
ICEEM
Aurangabad.

Subject: Proposal for Introducing a Course in "Pro-E" for TE MECH Students for the Academic Year 2021-22

Respected Sir,

I am writing to propose the Introducing a Course in "Pro-E" for TE MECH Students for the Academic Year 2021-22

This course explores the basics of Pro-E software. Students will learn to the use of Pro-E software through various sessions during this course.

I believe that introducing this course will significantly benefit our students and enhance the academic standards of our Mechanical Department. I kindly request you to consider this proposal and approve the introduction of "Pro-E" as a part of the curriculum for the upcoming academic semester.
Thank you for considering my request. I am looking forward to your positive response.

The course Objectives, Course outline and Marking Scheme with Assessment are attached herewith this application.

Yours sincerely,

Head of Mechanical Department

CAMPUS DIRECTOR
International Centre of Excellence In Engg. & MGMT.
Aurangabad

Course Objectives:

1. **Introduction to Pro-E**: Familiarizing students with the interface, commands, and tools available in Pro-E.
2. **Drawing and Editing**: Teaching students how to create and modify 2D and 3D drawings using various drawing and editing commands.
3. **Layer Management**: Understanding the concept of layers in Pro-E and learning how to effectively organize drawings using layers.
4. **Dimensioning and Annotation**: Teaching students how to add dimensions and annotations to drawings to convey necessary information.
5. **Blocks and Attributes**: Introducing students to creating and using blocks and attributes to improve drawing efficiency and consistency.
6. **Basic 3D Modeling**: Providing an introduction to 3D modeling techniques in Pro-E, including creating basic 3D shapes and objects.
7. **Rendering and Visualization**: Exploring rendering options and visualization techniques to create realistic representations of 3D models.
8. **Customization**: Allowing students to customize Pro-E settings, tool palettes, and templates to suit specific workflow needs.
9. **Collaboration and Output**: Teaching methods for sharing Pro-E drawings with others, including plotting, publishing, and exporting files in various formats.
10. **Problem Solving and Troubleshooting**: Developing skills in identifying and resolving common issues encountered while using Pro-E.

Course Outline:

By the end of the course, students will be able to:

Effectively use Pro-E as a professional tool for design, drafting, and collaboration in various industries requiring precision and accuracy in technical drawings and 3D modeling.

Benefits to Students:

Studying Pro-E offers several benefits to students such as

1. **Improved Technical Skills**: Mastery of Pro-E software enhances students' technical proficiency in computer-aided design (CAD), allowing them to create precise and detailed drawings efficiently.
2. **Career Readiness**: Pro-E proficiency is a valuable asset in industries such as architecture, engineering, construction, manufacturing, and product design, making students more attractive to employers.

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ngabad

3. **Increased Employability**: Knowledge of Pro-E opens doors to a wide range of job opportunities, including roles as CAD drafters, designers, technicians, and engineers.
4. **Efficiency and Productivity**: Pro-E's tools and features streamline the design process, enabling students to produce drawings faster and with greater accuracy compared to traditional methods.
5. **Enhanced Design Visualization**: Students can create 2D drawings and 3D models that visualize concepts and designs effectively, aiding in communication and presentation of ideas.
6. **Collaborative Skills**: Pro-E facilitates collaboration among team members by allowing them to work on the same project simultaneously, share files, and manage revisions efficiently.
7. **Professional Development**: Learning Pro-E enhances students' professional development by preparing them for industry standards and practices, including the ability to adhere to drawing standards and conventions.
8. **Problem-Solving Abilities**: Pro-E teaches students how to analyze design problems and find solutions using CAD tools and techniques, fostering critical thinking and problem-solving skills.
9. **Certification Opportunities**: Many Pro-E courses offer preparation for Autodesk certification exams, which can validate students' skills and enhance their credibility in the job market.
10. **Foundation for Advanced Learning**: Proficiency in Pro-E provides a solid foundation for students interested in pursuing further education or training in specialized areas of CAD software or related fields.

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Pro-E Assessment

Multiple-Choice Questions (MCQs) Test Paper (20 Marks)

1 **What is the primary purpose of Pro/Engineer (Creo Parametric)?**

A) Web development
B) Mechanical design
C) Graphic design
D) Database management
Answer: B) Mechanical design

2 **Which feature in Pro/Engineer allows you to create 3D models from 2D sketches?**

A) Extrude
B) Render
C) Draft
D) Sweep
Answer: A) Extrude

3 **What is a 'datum' in Pro/Engineer?**

A) A reference point or axis
B) A type of 3D model
C) A rendering technique
D) A CAD file format
Answer: A) A reference point or axis

4 **Which module in Pro/Engineer is used for creating assemblies of multiple parts?**

A) Sketcher
B) Part
C) Assembly
D) Sheet metal
Answer: C) Assembly

5 **What is the purpose of 'regeneration' in Pro/Engineer?**

A) To restart the software
B) To update the geometry based on feature changes
C) To save files in different formats
D) To create animations
Answer: B) To update the geometry based on feature changes

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6 **Which tool in Pro/Engineer allows for the creation of complex curved surfaces?**

A) Extrude
B) Sweep
C) Blend
D) Chamfer
Answer: C) Blend

7 **What does the 'feature tree' in Pro/Engineer represent?**

A) A list of software bugs
B) A hierarchical list of model features
C) A collection of textures
D) A database of part numbers
Answer: B) A hierarchical list of model features

8 **Which file format is typically used to save Pro/Engineer models?**

A) .exe
B) .jpg
C) .prt
D) .doc
Answer: C) .prt

9 **What is the primary function of 'assemblies' in Pro/Engineer?**

A) To organize files on disk
B) To create complex parts
C) To combine multiple parts into a single design
D) To analyze stress in materials
Answer: C) To combine multiple parts into a single design

10 **Which of these is NOT a primary feature of Pro/Engineer?**

A) Sheet metal design
B) Finite element analysis
C) Web development
D) Mold design
Answer: C) Web development

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Marking Scheme

Sr. No.	Assessment Component	Marks Allocation
1	Multiple-Choice Questions (MCQ)	20 marks
2	Total	20 marks

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Aurangabad

Date: 28/04/2022

To,

Head of Mechanical Engg.

ICEEM

Aurangabad,

Subject: Sanction for the Introduction of the Course "Pro-E" for TE Students for the Academic Year 2021-22

Dear Sir,

I am pleased to inform you that the College Development Committee has reviewed and approved your proposal to introduce the course " Pro-E " for the TE Mech students in the Mechanical Engg Department for the academic year 2021-22

We commend your initiative in proposing this course, which aligns with the college's commitment to providing our students with up-to-date and relevant educational opportunities. Approved Course Details:

Course Title: Pro-E

Department: Mechanical Engg.

Level: UG

Academic Year: 2021-22

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Aurangabad

Campus Director

Certificate Course Distrubtion Record Mech. Year:-2021-2022

Course Name:- Pro-E

Sr No.	Name of Student	Signature
1	AHIRE POOJA SITARAM	
2	Ajab Amol Tukaram	
3	ALSATWAR RAHUL NARAYAN	
4	AMBHORE AMOL PARMESHWAR	
5	Arbad Akshay G	
6	Bamnote Harshal Ravindra	
7	BANSODE AKASH BHANUDAS	
8	BHAJIBHAKRE PRATIK MAHENDRA	
9	BHARTI SUNIL BABAN	
10	BHUSARE VISHAL KRUSHNA	
11	Dambale Kiran Madhukar	
12	DAPKE SUMIT MACHINDRANATH	
13	Desale Vaibhav Satyendra	
14	DIVATE ATHARAW SANDEEP	
15	Diwate Suyog Kailas	
16	DUDE ABHISHEK GAJANAN	
17	GAGARE MANGESH TABAJI	
18	GANGWE DINESH SHIVRAM	
19	GARDE NIKHIL RAJESH	
20	GOMTE ADITYA VIJAYKUMAR	
21	Hampole Somesh Pandurang	
22	JADHAV RAMESHWAR PURANDAR	
23	Jawale Sachin Ashok	
24	Jivrakh Nikhil Vinayak	
25	KAKLIJ SOPAN MEGHRAJ	
26	KALE NAKUL EKNATHRAO	
27	KAMBLE RAHUL RAMESH	
28	KASBE SWAPNIL BHAGWAN	
29	KHANDAGLE MAHESH NILESH	
30	KHILLARE NIKHIL BHUJANGRAO	
31	Koli Ganesh Somnath	
32	LAHANE SIDDHANT JAGANNATH	
33	Lande Akshay Rohidas	
34	LOHAKARE KRUSHNA DATTATRAY	
35	MAKHARE AMOL DAMODHAR	
36	MALI REWATI MANOHAR	

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37	Matsagar Rahul Balu	
38	Mehra Kanhaiya Jogendra	
39	Meshram Shubham Dnyaneshwar	
40	MESHRAM SUMIT BUDDHAGHOSH	
41	Mirge Tushar Dattatrey	
42	Mohd Matiuddin Mohd Masihuddin	
43	MORALWAR ANIKET DNYANESHWAR	
44	MORALWAR ABHISHEK DNYANESHWAR	
45	Mule Sanket Rajabhau	
46	Naik Mangesh Dadarao	
47	Kaushal Narkhede	
48	Nikam Aditya Dnyanwshwar	
49	Nikam Rupali Rajendra	
50	Ajay dhansing nimrot	
51	Pakhare Ashish Sainath	
52	PATIL ABHISHEK MAHENDRA	
53	Patil Suraj Dhanajirao	
54	Patil Yogesh Ishwar	
55	Pawar Dipak Shivram	
56	PAWAR PRAGATI SANJAY	
57	Pawar Suraj Balasaheb	
58	Pote Yogesh Prakash	
59	Rahatwad Ajay V	
60	RATHOD YOGESH SAMPAT	
61	RAUT PRAVIN SAHEBRAO	
62	Salunke Shahadev Savta	
63	Sasemahal Nilkanth Dadarao	
64	Satdive Akash Bhausaheb	
65	Sayyad Abuzar Sayed Zakir	
67	SHAIKH SAJID AYAJ	
68	SHELKE KRISHNA EKNATH	
69	SHINDE ASHISH ANIL	
70	Deshpande Malhar Purshottamrao	
71	INGLE KOMAL BALAJI	
72	Jadhav Komal Sunil	
73	KADAM SIDDHANT MADAN	
74	Kalambarkar Vaibhav Pandharinath	
75	Lonkar Mayur Gorakh	

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Aurangabad

INTERNATIONAL CENTRE OF EXCELLENCE IN ENGINEERING AND MANAGEMENT (ICEEM)
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NAAC Accredited

Date: 25/04/2022

To,
Campus Director,
ICEEM
Aurangabad.

Subject: Proposal for Introducing a Course in "3-D modelling" for BE MECH Students for the Academic Year 2021-22

Respected Sir,

I am writing to propose the Introducing a Course in "3-D modelling" for BE MECH Students for the Academic Year 2021-22

This course explores the basics of 3-D modelling software. Students will learn to the use of 3-D modelling software through various sessions during this course.

I believe that introducing this course will significantly benefit our students and enhance the academic standards of our Mechanical Department. I kindly request you to consider this proposal and approve the introduction of "3-D modelling" as a part of the curriculum for the upcoming academic semester.
Thank you for considering my request. I am looking forward to your positive response.

The course Objectives, Course outline and Marking Scheme with Assessment are attached herewith this application.

Yours sincerely,

Prof. S. B. Janjal
Head of Mechanical Department

CAMPUS DIRECTOR
International Centre of Excellence In Engg. & MGMT.
Aurangabad

Course Objectives:

1. **Introduction to 3-D modelling**: Familiarizing students with the interface, commands, and tools available in 3-D modelling.
2. **Drawing and Editing**: Teaching students how to create and modify 2D and 3D drawings using various drawing and editing commands.
3. **Layer Management**: Understanding the concept of layers in 3-D modelling and learning how to effectively organize drawings using layers.
4. **Dimensioning and Annotation**: Teaching students how to add dimensions and annotations to drawings to convey necessary information.
5. **Blocks and Attributes**: Introducing students to creating and using blocks and attributes to improve drawing efficiency and consistency.
6. **Basic 3D Modeling**: Providing an introduction to 3D modeling techniques in 3-D modelling, including creating basic 3D shapes and objects.
7. **Rendering and Visualization**: Exploring rendering options and visualization techniques to create realistic representations of 3D models.
8. **Customization**: Allowing students to customize 3-D modelling settings, tool palettes, and templates to suit specific workflow needs.
9. **Collaboration and Output**: Teaching methods for sharing 3-D modelling drawings with others, including plotting, publishing, and exporting files in various formats.
10. **Problem Solving and Troubleshooting**: Developing skills in identifying and resolving common issues encountered while using 3-D modelling.

Course Outline:

By the end of the course, students will be able to:

Effectively use 3-D modelling as a professional tool for design, drafting, and collaboration in various industries requiring precision and accuracy in technical drawings and 3D modeling.

Benefits to Students:

Studying 3-D modelling offers several benefits to students such as

1. **Improved Technical Skills**: Mastery of 3-D modelling software enhances students' technical proficiency in computer-aided design (CAD), allowing them to create precise and detailed drawings efficiently.
2. **Career Readiness**: 3-D modelling proficiency is a valuable asset in industries such as architecture, engineering, construction, manufacturing, and product design, making

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students more attractive to employers.

3. **Increased Employability**: Knowledge of 3-D modelling opens doors to a wide range of job opportunities, including roles as CAD drafters, designers, technicians, and engineers.
4. **Efficiency and Productivity**: 3-D modelling's tools and features streamline the design process, enabling students to produce drawings faster and with greater accuracy compared to traditional methods.
5. **Enhanced Design Visualization**: Students can create 2D drawings and 3D models that visualize concepts and designs effectively, aiding in communication and presentation of ideas
6. **Collaborative Skills**: 3-D modelling facilitates collaboration among team members by allowing them to work on the same project simultaneously, share files, and manage revisions efficiently.
7. **Professional Development**: Learning 3-D modelling enhances students' professional development by preparing them for industry standards and practices, including the ability to adhere to drawing standards and conventions.
8. **Problem-Solving Abilities**: 3-D modelling teaches students how to analyze design problems and find solutions using CAD tools and techniques, fostering critical thinking and problem-solving skills.
9. **Certification Opportunities**: Many 3-D modelling courses offer preparation for Autodesk certification exams, which can validate students' skills and enhance their credibility in the job market.
10. **Foundation for Advanced Learning**: Proficiency in 3-D modelling provides a solid foundation for students interested in pursuing further education or training in specialized areas of CAD software or related fields.

CAMPUS DIRECTOR
International Centre of
Excellence In Engg. & MGMT.
Aurangabad

3-D modelling Assessment

Multiple-Choice Questions (MCQs) Test Paper (20 Marks)

Question 1:

Which software is commonly used for 3D modeling in the entertainment industry? A) AutoCAD
B) SolidWorks
C) Blender
D) SketchUp
Answer: C) Blender

Question 2:

What is a polygon in 3D modeling? A) A 3D shape with curved surfaces
B) A flat shape with straight sides
C) A vertex in a 3D model
D) A type of texture mapping
Answer: B) A flat shape with straight sides

Question 3:

Which file format is typically used to export 3D models for printing? A) .STL
B) .JPEG
C) .MP4
D) .PDF
Answer: A) .STL

Question 4:

In 3D modeling, what is the process of creating a smooth transition between two surfaces called? A) Extrusion
B) Boolean operation
C) Filleting
D) Chamfering
Answer: C) Filleting

Question 5:

Which term refers to the point where two edges of a 3D model meet? A) Edge
B) Face
C) Vertex
D) Polygon
Answer: C) Vertex

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Question 6:

What is the purpose of UV mapping in 3D modeling? A) To create animations
B) To apply textures to a 3D model
C) To build a skeleton for a model
D) To simulate lighting effects
Answer: B) To apply textures to a 3D model

Question 7:

Which of the following is a commonly used 3D modeling technique? A) Rasterization
B) Vectorization
C) Sculpting
D) Filtering
Answer: C) Sculpting

Question 8:

In 3D modeling, what is a "mesh"? A) A single line in a model
B) A collection of vertices, edges, and faces that define the shape of a 3D object
C) A type of material used in rendering
D) A lighting effect
Answer: B) A collection of vertices, edges, and faces that define the shape of a 3D object

Question 9:

What is the function of a "modifier" in 3D modeling software like Blender? A) To change the color of the model
B) To alter the geometry of a model in a non-destructive way
C) To export the model
D) To apply lighting effects
Answer: B) To alter the geometry of a model in a non-destructive way

Question 10:

Which software is known for its parametric modeling capabilities, often used in engineering and architecture? A) Blender
B) AutoCAD
C) SolidWorks
D) ZBrush
Answer: C) SolidWorks

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Marking Scheme

Sr. No.	Assessment Component	Marks Allocation
1	Multiple-Choice Questions (MCQ)	20 marks
2	Total	20 marks

Date: 28/04/2022

To,

Head of Mechanical Engg.

ICEEM

Aurangabad,

Subject: Sanction for the Introduction of the Course "3-D Modelling" for BE Students for the Academic Year 2021-22

Dear Sir,

I am pleased to inform you that the College Development Committee has reviewed and approved your proposal to introduce the course " 3-D Modelling " for the BE Mech students in the Mechanical Engg Department for the academic year 2021-22

We commend your initiative in proposing this course, which aligns with the college's commitment to providing our students with up-to-date and relevant educational opportunities. Approved Course Details:

Course Title: 3-D Modelling

Department: Mechanical Engg.

Level: UG

Academic Year: 2021-22

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Aurangabad

Campus Director

Add.: Gut No.4, Opp. Bajaj Auto Ltd. Main Gate, Aurangabad- Pune National Highway, Aurangabad - 431136 (MS) India.
Telephone : 0240 - 2558101 to 10 | Telefax 0240 - 2558111
Website : www.iceemabad.com | E-mail : director@iceemabad.com

Certificate Course Distrubtion Record Mech. Year:-2021-2022

Course Name:- 3-D Modelling

Sr No.	Name of Student	Signature
1	Awalekar Karnesh	
2	Bajode Mayur	
3	BARIDE KISHOR SANJAY	
4	Thorat Raviraj M	
5	Devkar Vivek A	
6	Bhalerao Abhilesh	
7	Bharad Prakash Harichandra	
8	Bhutekar Kunal Hari	
9	Birajdar Mahesh	
10	Bodade Shailesh Jitendra	
11	Bodkhe Kishor Dynashewar	
12	Chakurkar Pradumn Shriram	
13	Charhate Akash Dashrath	
14	Chaudhari Jay Mahendra	
15	Chavan Vishal Gulabrao	
16	Chire Vishwajeet Indrajeet	
17	Dahale Ganesh Shivajirao	
18	Debare Vipul Gajanan	
19	Deokar Shubham	
20	Deshmane Kiran Somnath	
21	Deshmukh Aniket	
22	Deshmukh Gaurav Eknath	
23	Deshmukh Rushikesh Subhashrao	
24	Deshmukh Saurabh	
25	Deshpande Rutuja	
26	Dhanedhar Shubhash Laxman	
27	Dhuliyawala Taha Hussain	
28	Doud Akshay Sheshrao	
29	Dubule Rushikesh Magan	
30	Dugane Saraswati	
31	Dukare Rajesh Eknath	
32	Dukare Sudhanshu	
33	Durge Shrushti Kishor	
34	Fepale Uday Sunil	
35	Fulzade Atish Bhagawat	
36	Gaikwad Jagdish Sanjay	

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37	Gajakosh Ganesh
38	Ganraj Lokesh Kishor
39	Garad Rahul Laxman
40	Ghodke Sapna Rajesh
41	Ghule Mangesh Sanjay
42	Hambarde Ratnakar
43	Hirole Shashikant Narayan
44	Hivale Pravin Sudhakar
45	Hiwale Suraj Shriram
46	Ingle Shubham Sheshrao
47	Jadhav Ajay Vijay
48	Jadhav Bankat Shivaji
49	Jadhav Pradip Shivraj
50	Jadhav Priya Damodar
51	Jadhav Sagar
52	Jadhav Swapnil
53	Jagtap Vrushali
54	Jaiwal Saurabh
55	Jamdhade Supriya
56	Janjal Rohit Bhagwan
57	Kadam Vaibhav
58	Kade Dnyaneshwar
59	Kale Pallavi Rameshwar
60	Kamble Ganesh
61	Kamble Kiran Bhikaji
62	Kamble Prashik narayan
63	Kanade Nikhil Kulbhushan
64	Khade Saurabh Raju
65	KHAN MUSHARRF MOHD KHAN GULAM MOHD
67	Khandagale Anand Dilip
68	Khedkar Gaurav Ramesh
69	Kolnure Sanjay Hanmantrao
70	Kulkarni Siddhesh
71	Lachuriye Kanchan Mangesh
72	Lambole Yashwant Prakash
73	Lende Vikas Bhujangrao
74	Lokhande Rohit
75	Lokhande Shubham Ganesh
76	Madakwar Hemraj Shriram
77	Magar Rushali Vaijinath
78	Mane Akash Manohar
79	Nagre Anish Anil
80	Nandagavli Dhammpal Suhir

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81	Nannaware Hrishikesh Dattatray	
82	Narode Yogesh Janardan	
83	Navthar Sachin Rohidas	
84	Padalikar Kashinath Shripad	
85	Padalwar Rishikesh Nagnathrao	
86	Pagar Pooja	
87	Panchal Ganesh	
88	Patil Gaurav Bhagawat	
89	Pawar Shivani Sudhir	
90	Pendhare Akash Suresh	
91	Pinjari Imran Gulab	
92	Pujari Anuja	
93	Pundge Akash Bapurao	
94	Rajankar Pratik Ganesh	
95	Rajebhosle Mangesh Subhashrao	
96	Rajput Shudip Yadvendrasingh	
97	Rathod Ajay Gajanan	
98	Rathod Vishnu Machindra	
99	Raut Abhijit Shriram	
100	Bansode Prashant	
101	Raut Prajwal	
102	Salve Komal	
103	Sangole Ram Pramod	
104	Sarje Jayanand Hanmant	
105	Saurabh Dhok pundalik	
106	SHAIKH ALFARHAN MUKHTAR AHMED	
107	Shaikh Naeem Abdulraheman	
108	Shaikh Sailani Magdum	
109	Sharma Dhirajkumar	
110	Shelke Vivek Ashok	
111	Khune Swapnil M.	
112	Shirale Shubham Sanjay	
113	Shunkrawar Gangaprasad Shivaji	
114	Sultane Yogesh Chandrabhan	
115	Suryawanshi Aniket Balu	
116	Tandale Ravindra Rangnath	
117	WAGH ISHWAR SATYAVIJAY	
118	Wagh Kamini Rameshrao	
119	Waghchaure Sandip Uttamrao	
120	Waratkar Shubham	
121	Yadav Pravin	
122	Zinjurke Kirankumar Sitaram	
123	Shinde Akshay	

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124	Swami Sungmeshwar Omkar	
125	Pawar Ramdas Navnath	
126	Mandavkar amol	
127	ADHAV ROHAN SUNIL	
128	AMBHORE VISHNU DHARMARAJ	
129	AMBHORE VITTHAL SATYANARAYAN	
130	ASWALE UTTAM NIVRUTTI	

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Tel.: 0240-2558101-10, Fax: 0240-2558111: E-mail: director@iceemabad.com, **Website: www.iceemabad.com**

Date: 5/7/19

To,

Director,

ICEEM

Aurangabad.

Subject: Proposal for Introducing a Course in "AutoCAD" for SE MECH Students for the Academic Year 2019-2020

Respected Sir,

I am writing to propose the Introducing a Course in "AutoCAD" for SE MECH Students for the Academic Year 2019-2020

This course explores the basics of AutoCAD software. Students will learn to the use of AutoCAD software through various sessions during this course.

I believe that introducing this course will significantly benefit our students and enhance the academic standards of our Mechanical Department. I kindly request you to consider this proposal and approve the introduction of "AutoCAD" as a part of the curriculum for the upcoming academic semester.

Thank you for considering my request. I am looking forward to your positive response.

The course Objectives, Course outline and Marking Scheme with Assessment are attached herewith this application.

Yours sincerely,

Head of Mechanical Department

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Gut No.4, Opposite Bajaj Auto Ltd, Aurangabad-Pune Highway, Aurangabad 431136. (M.S.)
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Course Objectives:

1. **Introduction to AutoCAD**: Familiarizing students with the interface, commands, and tools available in AutoCAD.
2. **Drawing and Editing**: Teaching students how to create and modify 2D and 3D drawings using various drawing and editing commands.
3. **Layer Management**: Understanding the concept of layers in AutoCAD and learning how to effectively organize drawings using layers.
4. **Dimensioning and Annotation**: Teaching students how to add dimensions and annotations to drawings to convey necessary information.
5. **Blocks and Attributes**: Introducing students to creating and using blocks and attributes to improve drawing efficiency and consistency.
6. **Basic 3D Modeling**: Providing an introduction to 3D modeling techniques in AutoCAD, including creating basic 3D shapes and objects.
7. **Rendering and Visualization**: Exploring rendering options and visualization techniques to create realistic representations of 3D models.
8. **Customization**: Allowing students to customize AutoCAD settings, tool palettes, and templates to suit specific workflow needs.
9. **Collaboration and Output**: Teaching methods for sharing AutoCAD drawings with others, including plotting, publishing, and exporting files in various formats.
10. **Problem Solving and Troubleshooting**: Developing skills in identifying and resolving common issues encountered while using AutoCAD.

Course Outline:

By the end of the course, students will be able to:

Effectively use AutoCAD as a professional tool for design, drafting, and collaboration in various industries requiring precision and accuracy in technical drawings and 3D modeling.

Benefits to Students:

Studying AutoCAD offers several benefits to students such as

1. **Improved Technical Skills**: Mastery of AutoCAD software enhances students' technical proficiency in computer-aided design (CAD), allowing them to create precise and detailed drawings efficiently.
2. **Career Readiness**: AutoCAD proficiency is a valuable asset in industries such as architecture, engineering, construction, manufacturing, and product design, making students

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more attractive to employers.

3. **Increased Employability**: Knowledge of AutoCAD opens doors to a wide range of job opportunities, including roles as CAD drafters, designers, technicians, and engineers.
4. **Efficiency and Productivity**: AutoCAD's tools and features streamline the design process, enabling students to produce drawings faster and with greater accuracy compared to traditional methods.
5. **Enhanced Design Visualization**: Students can create 2D drawings and 3D models that visualize concepts and designs effectively, aiding in communication and presentation of ideas.
6. **Collaborative Skills**: AutoCAD facilitates collaboration among team members by allowing them to work on the same project simultaneously, share files, and manage revisions efficiently.
7. **Professional Development**: Learning AutoCAD enhances students' professional development by preparing them for industry standards and practices, including the ability to adhere to drawing standards and conventions.
8. **Problem-Solving Abilities**: AutoCAD teaches students how to analyze design problems and find solutions using CAD tools and techniques, fostering critical thinking and problem-solving skills.
9. **Certification Opportunities**: Many AutoCAD courses offer preparation for Autodesk certification exams, which can validate students' skills and enhance their credibility in the job market.
10. **Foundation for Advanced Learning**: Proficiency in AutoCAD provides a solid foundation for students interested in pursuing further education or training in specialized areas of CAD software or related fields.

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AutoCAD Assessment

Multiple-Choice Questions (MCQs) Test Paper (20 Marks)

1. What does CAD stand for?

A. Computer Aided Design

B. Computer Aided Drafting

C. Computer Aided Drawing

D. Computer Aided Dimensioning

Answer: A

2. Which of the following is NOT a typical AutoCAD workspace environment?

A. Drafting & Annotation

B. 3D Modeling

C. Animation

D. AutoCAD Classic

Answer: C

3. Which AutoCAD command is used to draw a circle?

A. Line

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B. Rectangle

C. Circle

D. Arc

Answer: C

4. What is the purpose of the Trim command in AutoCAD?

A. To extend a line or object

B. To remove parts of objects that overlap

C. To create multiple copies of an object

D. To rotate an object around a specified point

Answer: B

5. Which command is used to change the properties of selected objects in AutoCAD?

A. Properties

B. Modify

C. Change

D. Adjust

Answer: A

6. In AutoCAD, what are layers used for?

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A. To group objects for easy selection

B. To apply different colors and line types to objects

C. To create 3D objects

D. To change the drawing scale

Answer: B

7. Which dimensioning command in AutoCAD is used to measure the angle between two lines?

A. Linear

B. Aligned

C. Angular

D. Radius

Answer: C

8. Which command is used to create a 3D solid box in AutoCAD?

A. Box

B. Cube

C. Extrude

D. Solid

Answer: A

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9. What does UCS stand for in AutoCAD?

A. Unified Coordinate System

B. User Coordinate System

C. Universal Coordinate System

D. Uniform Coordinate System

Answer: B

10. Which AutoCAD feature allows you to create and manage custom tools and tool palettes?

A. Tool Manager

B. Tool Organizer

C. Tool Palette

D. Tool Wizard

Answer: C

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Tel.: 0240-2558101-10, Fax: 0240-2558111: E-mail: director@iceemabad.com, **Website: www.iceemabad.com**

Marking Scheme

Sr. No.	Assessment Component	Marks Allocation
1	Multiple-Choice Questions (MCQ)	20 marks
2	Total	20 marks

Kindly, consider it.

Thank you.

Head of Mechanical Department

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Tel.: 0240-2558101-10, Fax: 0240-2558111: E-mail: director@iceemabad.com, **Website: www.iceemabad.com**

Date: 10/7/19

To,

Head of Mechanical Engg.

ICEEM

Aurangabad,

Subject: Sanction for the Introduction of the Course " AutoCAD" for SE Students for the Academic Year 2019-20

Dear Sir,

I am pleased to inform you that the College Development Committee has reviewed and approved your proposal to introduce the course " AutoCAD " for the SE Mech students in the Mechanical Engg Department for the academic year 2019-20

We commend your initiative in proposing this course, which aligns with the college's commitment to providing our students with up-to-date and relevant educational opportunities. Approved Course Details:

Course Title: AutoCAD

Department: Mechanical Engg.

Level: UG

Academic Year: 2019-20

Director

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Certificate Course Distribution Record Mech. Year:-2019-2020

Course Name:- AutoCAD

Sr No.	Name of Student	Signature
1	Birajdar Mahesh	
2	Deshmukh Saurabh	
3	Deshmukh Gaurav Eknath	
4	Sharma Dhirajkumar	
5	Adhav Anil Bhaurao	
6	Awalekar Karnesh	
7	Awez Mujawar Mohd Ishaq Mujawar	
8	Bambratkar Sidhanshu Dnyaneshwar	
9	Bankat Shivaji jadhav	
10	Bhagure Pratiksha Tarachand	
11	Bharad Prakash Harichandra	
12	Bilwal Rahul Devisingh	
13	Bodade Shailesh Jitendra	
14	Chakurkar Pradumn Shriram	
15	Chaudhari Jay Mahendra	
16	Chavan Vishal Gulabrao	
17	Chire Vishwajeet Indrajeet	
18	Dahale Ganesh Shivajirao	
19	Debare Vipul Gajanan	
20	Deshmane Kiran Sōmnath	
21	Deshmukh Rushikesh Subhashrao	
22	Dhammpal Suhir Nandagavli	
23	Dharshan Nashikkar Subhash	
24	Dhuliyawala Taha Hussain	
25	Dombe Komal Baburao	
26	Doud Akshay Sheshrao	
27	Dubule Rushikesh Magan	
28	Durge Shrushti Kishor	
29	Fepale Uday Sunil	
30	Fulzade Atish Bhagawat	
31	Gaikwad Jagdish Sanjay	
32	Ganesh Shevrao Bhabad	

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33	Ganraj Lokesh Kishor	
34	Ghodke Sapna Rajesh	
35	Ghonsikar Vyankatesh Girishrao	
36	Ghule Mangesh Sanjay	
37	Hivale Pravin Sudhakar	
38	Hiwale Suraj Shriram	
39	Ingle Shubham Sheshrao	
40	Jadhav Pradip Shivraj	
41	Janjal Rohit Bhagwan	
42	Kamble Kiran Bhikaji	
43	Kamble Prashik narayan	
44	Karore Abhishek Vijay	
45	Khade Saurabh Raju	
46	Khandagale Anand Dilip	
47	Kharat Satish Jagan	
48	Khedkar Gaurav Ramesh	
49	Kolnure Sanjay Hanmantrao	
50	Korsale Vaibhav Mahaling	
51	Kotkar Satish Jivanaji	
52	Kulkarni Siddhesh	
53	Lalit Pramodrao Dhavane	
54	Lambole Yashwant Prakash	
55	Lokhande Shubham Ganesh	
56	Magar Rushali Vaijinath	
57	Mahale Sachin Narayan	
58	Mali Kunal Abhiman	
59	Malusare Sachin Ramesh	
60	Mandal Abhay Parameshwar	
61	Musharrf Mohd Khan Gulam Mohd Khan	
62	Nagre Anish Anil	
63	Nannaware Hrishikesh Dattatray	
64	Narode Yogesh Janardan	
65	Navthar Sachin Rohidas	
66	Padalwar Rishikesh Nagnathrao	
67	Patil Gaurav Bhagawat	
68	Pawar Shivani Sudhir	
69	Pinjari Imran Gulab	
70	Pundge Akash Bapurao	

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Tel.: 0240-2558101-10, Fax: 0240-2558111: E-mail: director@iceemabad.com, **Website: www.iceemabad.com**

Date: 5/7/19

To,

Director,

ICEEM

Aurangabad.

Subject: Proposal for Introducing a Course in "Advance AutoCAD" for TE MECH Students for the Academic Year 2019-20

Respected Sir,

I am writing to propose the Introducing a Course in "Advance AutoCAD" for TE MECH Students for the Academic Year 2019-20

This course explores the basics of Advance AutoCAD software. Students will learn to the use of AutoCAD software through various sessions during this course.

I believe that introducing this course will significantly benefit our students and enhance the academic standards of our Mechanical Department. I kindly request you to consider this proposal and approve the introduction of "Advance AutoCAD" as a part of the curriculum for the upcoming academic semester.

Thank you for considering my request. I am looking forward to your positive response.

The course Objectives, Course outline and Marking Scheme with Assessment are attached herewith this application.

Yours sincerely,

Head of Mechanical Department

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Tel.: 0240-2558101-10, Fax: 0240-2558111: E-mail: director@iceemabad.com, **Website: www.iceemabad.com**

Course Objectives:

1. **Introduction to Advance AutoCAD**: Familiarizing students with the interface, commands, and tools available in Advance AutoCAD.
2. **Drawing and Editing**: Teaching students how to create and modify 2D and 3D drawings using various drawing and editing commands.
3. **Layer Management**: Understanding the concept of layers in Advance AutoCAD and learning how to effectively organize drawings using layers.
4. **Dimensioning and Annotation**: Teaching students how to add dimensions and annotations to drawings to convey necessary information.
5. **Blocks and Attributes**: Introducing students to creating and using blocks and attributes to improve drawing efficiency and consistency.
6. **Basic 3D Modeling**: Providing an introduction to 3D modeling techniques in Advance AutoCAD, including creating basic 3D shapes and objects.
7. **Rendering and Visualization**: Exploring rendering options and visualization techniques to create realistic representations of 3D models.
8. **Customization**: Allowing students to customize Advance AutoCAD settings, tool palettes, and templates to suit specific workflow needs.
9. **Collaboration and Output**: Teaching methods for sharing Advance AutoCAD drawings with others, including plotting, publishing, and exporting files in various formats.
10. **Problem Solving and Troubleshooting**: Developing skills in identifying and resolving common issues encountered while using Advance AutoCAD.

Course Outline:

By the end of the course, students will be able to:

Effectively use Advance AutoCAD as a professional tool for design, drafting, and collaboration in various industries requiring precision and accuracy in technical drawings and 3D modeling.

Benefits to Students:

Studying Advance AutoCAD offers several benefits to students such as

1. **Improved Technical Skills**: Mastery of Advance AutoCAD software enhances students'

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technical proficiency in computer-aided design (CAD), allowing them to create precise and detailed drawings efficiently.

2. **Career Readiness**: Advance AutoCAD proficiency is a valuable asset in industries such as architecture, engineering, construction, manufacturing, and product design, making students more attractive to employers.
3. **Increased Employability**: Knowledge of Advance AutoCAD opens doors to a wide range of job opportunities, including roles as CAD drafters, designers, technicians, and engineers.
4. **Efficiency and Productivity**: Advance AutoCAD's tools and features streamline the design process, enabling students to produce drawings faster and with greater accuracy compared to traditional methods.
5. **Enhanced Design Visualization**: Students can create 2D drawings and 3D models that visualize concepts and designs effectively, aiding in communication and presentation of ideas.
6. **Collaborative Skills**: Advance AutoCAD facilitates collaboration among team members by allowing them to work on the same project simultaneously, share files, and manage revisions efficiently.
7. **Professional Development**: Learning Advance AutoCAD enhances students' professional development by preparing them for industry standards and practices, including the ability to adhere to drawing standards and conventions.
8. **Problem-Solving Abilities**: Advance AutoCAD teaches students how to analyze design problems and find solutions using CAD tools and techniques, fostering critical thinking and problem-solving skills.
9. **Certification Opportunities**: Many Advance AutoCAD courses offer preparation for Autodesk certification exams, which can validate students' skills and enhance their credibility in the job market.
10. **Foundation for Advanced Learning**: Proficiency in Advance AutoCAD provides a solid foundation for students interested in pursuing further education or training in specialized areas of CAD software or related fields.

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Advance AutoCAD Assessment

Multiple-Choice Questions (MCQs) Test Paper (20 Marks)

Question 1:

Which command allows you to draw a spline in AutoCAD?

A) PLINE

B) SPLINE

C) LINE

D) ARC

Answer: B) SPLINE

Question 2:

What is the function of the XREF command in AutoCAD?

A) To create external references

B) To create a block

C) To trim objects

D) To extend objects

Answer: A) To create external references

Question 3:

How do you create an array of objects in a circular pattern?

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A) ARRAYRECT

B) ARRAYPOLAR

C) ARRAYPATH

D) MIRROR

Answer: B) ARRAYPOLAR

Question 4:

Which command would you use to join multiple line segments into a single polyline?

A) JOIN

B) SPLINE

C) PLINE

D) PEDIT

Answer: D) PEDIT

Question 5:

What is the purpose of the PURGE command?

A) To delete unwanted objects

B) To clean up the drawing

C) To reduce file size

D) All of the above

Answer: D) All of the above

Question 6:

Which command allows you to create a 3D solid by sweeping a 2D profile along a path?

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A) EXTRUDE

B) REVOLVE

C) SWEEP

D) LOFT

Answer: C) SWEEP

Question 7:

What does the UCSICON command do?

A) Toggles the display of the User Coordinate System icon

B) Changes the current UCS

C) Saves the current UCS

D) Resets the UCS to default

Answer: A) Toggles the display of the User Coordinate System icon

Question 8:

Which layer management tool would you use to isolate a layer for editing?

A) LAYER FREEZE

B) LAYER ISOLATE

C) LAYER LOCK

D) LAYER THAW

Answer: B) LAYER ISOLATE

Question 9:

What is the purpose of the MATCHPROP command?

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A) To match properties from one object to another

B) To create a new layer

C) To measure the distance between objects

D) To trim objects

Answer: A) To match properties from one object to another

Question 10:

Which command can be used to create a region from a closed polyline or other closed objects?

A) REGION

B) POLYLINE

C) BOUNDARY

D) TRIM

Answer: A) REGION

Marking Scheme

Sr. No.	Assessment Component	Marks Allocation
1	Multiple-Choice Questions (MCQ)	20 marks
2	Total	20 marks

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Date: 10/7/19

To,

Head of Mechanical Engg.

ICEEM

Aurangabad,

Subject: Sanction for the Introduction of the Course "Advanced AutoCAD" for TE Students for the Academic Year 2019-20

Dear Sir,

I am pleased to inform you that the College Development Committee has reviewed and approved your proposal to introduce the course "Advanced AutoCAD " for the TE Mech students in the Mechanical Engg Department for the academic year 2019-20

We commend your initiative in proposing this course, which aligns with the college's commitment to providing our students with up-to-date and relevant educational opportunities. Approved Course Details:

Course Title: Advanced AutoCAD

Department: Mechanical Engg.

Level: UG

Academic Year: 2019-20

Director

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Certificate Course Distribution Record Mech. Year:-2019-2020

Course Name:- Advance AutoCAD

Sr No.	Name of Student	Signature
1	CHANDEWAR PRIJETA YOGRAJ	
2	DAMDHAR AKSHAY RAMESH	
3	DEVKAR VIVEK ARVIND	
4	DHAGE PANKAJ PRALHAD	
5	FERAN SHIVAM ASHOKRAO	
6	HIWRALE JAYSHRI RAVBA	
7	JADHAV VISHAL YASHWANT	
8	JAWALE KHUSHAL AVINASH	
9	KADLAG RAHUL SOMNATH	
10	KAKADE SACHIN NARAYAN	
11	KHUNE SWAPNIL MAHESH	
12	KOLI CHAITALI SANJAY	
13	KOMBADE KRISHNAKANT DAYARAM	
14	KUTE KAVITA VIJAY	
15	MORE ARJUN NANDU	
16	MORE DEEPAK SURESH	
17	NANDANE VINAYAK RAMRAO	
18	NIMBOLKAR YOGESH PURUSHOTTAM	
19	PADEKAR PRADIP BHAUSAHEB	
20	PATIL CHHAYA DILIP	
21	PATIL GAURAV	
22	PRASHAR MAHESH RAJESH.	
23	RAUT PRAJWAL ASHOK	
24	SHELKE BHUPENDRA HARISHCHANDRA	
25	SONAWANE NIKHIL SATILAL	
26	SWAMI NAGNATH OMKAR	
27	WAGHMARE GOVIND NIVRUTI	
28	KINGE PRAJAKTA PRAFULLA	
29	SATAO KUNAL RAJESH	
30	CHANDANSE PRAVIN SUBHASH	
31	DAHAKLE SUNIL AAPPAJI	
32	RATHOD SAIPRASAD EKNATH	

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33	VISHWAKARMA SHUBHAM RAMJI	
34	THOKAL SHANKAR BHAUSAHEB	
35	DEVDHE GAURAV TATYASAHEB	

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Date: 5/7/19

To,

Director,

ICEEM

Aurangabad.

Subject: Proposal for Introducing a Course in "Master Cam" for BE MECH Students for the Academic Year 2019-20

Respected Sir,

I am writing to propose the Introducing a Course in "Master Cam" for TE MECH Students for the Academic Year 2019-20

This course explores the basics of Master Cam software. Students will learn to the use of Master CAM software through various sessions during this course.

I believe that introducing this course will significantly benefit our students and enhance the academic standards of our Mechanical Department. I kindly request you to consider this proposal and approve the introduction of "Master Cam" as a part of the curriculum for the upcoming academic semester.

Thank you for considering my request. I am looking forward to your positive response.

The course Objectives, Course outline and Marking Scheme with Assessment are attached herewith this application.

Yours sincerely,

Head of Mechanical Department

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Course Objectives:

1. **Proficiency in CAM Software**: Gain proficiency in using Mastercam software to create, simulate, and optimize toolpaths for CNC machining.
2. **Understanding CAD/CAM Integration**: Learn to integrate CAD (Computer-Aided Design) models with CAM processes to generate accurate machining instructions.
3. **Toolpath Creation and Optimization**: Develop skills in creating efficient toolpaths for various machining operations, including milling, turning, and multi-axis machining.
4. **Simulation and Verification**: Gain the ability to simulate and verify machining operations to detect and prevent errors before actual machining.
5. **Post-Processing**: Understand the process of post-processing CAM outputs to generate machine-specific G-code for CNC machines.
6. **Advanced Machining Techniques**: Explore advanced machining techniques such as 3D milling, 5-axis machining, and high-speed machining.
7. **Application in Industry**: Apply Mastercam skills to real-world manufacturing scenarios, understanding industry standards and best practices.
8. **Problem-solving and Troubleshooting**: Develop problem-solving skills to troubleshoot CAM-related issues and optimize machining processes.
9. **Safety and Efficiency**: Learn to prioritize safety measures and optimize machining efficiency through CAM software capabilities.
10. **Project-Based Learning**: Engage in project-based learning to apply Mastercam skills in designing and machining actual parts, enhancing practical experience.

Course Outline:

By the end of the course, students will be able to:

Effectively use Master Cam as a professional tool for design, drafting, and collaboration in various industries requiring precision and accuracy in technical drawings and 3D modeling.

Benefits to Students:

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Studying Master Cam offers several benefits to students such as

1. **Improved Technical Skills**: Mastery of Master Cam software enhances students' technical proficiency in computer-aided design (CAD), allowing them to create precise and detailed drawings efficiently.
2. **Career Readiness**: Master Cam proficiency is a valuable asset in industries such as architecture, engineering, construction, manufacturing, and product design, making students more attractive to employers.
3. **Increased Employability**: Knowledge of Master Cam opens doors to a wide range of job opportunities, including roles as CAD drafters, designers, technicians, and engineers.
4. **Efficiency and Productivity**: Master Cam's tools and features streamline the design process, enabling students to produce drawings faster and with greater accuracy compared to traditional methods.
5. **Enhanced Design Visualization**: Students can create 2D drawings and 3D models that visualize concepts and designs effectively, aiding in communication and presentation of ideas.
6. **Collaborative Skills**: Master Cam facilitates collaboration among team members by allowing them to work on the same project simultaneously, share files, and manage revisions efficiently.
7. **Professional Development**: Learning Master Cam enhances students' professional development by preparing them for industry standards and practices, including the ability to adhere to drawing standards and conventions.
8. **Problem-Solving Abilities**: Master Cam teaches students how to analyze design problems and find solutions using CAD tools and techniques, fostering critical thinking and problem-solving skills.
9. **Certification Opportunities**: Many Master Cam courses offer preparation for Autodesk certification exams, which can validate students' skills and enhance their credibility in the job market.
10. **Foundation for Advanced Learning**: Proficiency in Master Cam provides a solid foundation for students interested in pursuing further education or training in specialized areas of CAD software or related fields.

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Master Cam Assessment

Multiple-Choice Questions (MCQs) Test Paper (20 Marks)

1 **What is Mastercam primarily used for?**

A) Computer-aided design (CAD)

B) Computer-aided manufacturing (CAM)

C) 3D animation

D) Web development

Answer: B) Computer-aided manufacturing (CAM)

2 **Which module in Mastercam is used to create toolpaths for CNC machining?**

A) CAD

B) Simulation

C) Toolpath

D) Rendering

Answer: C) Toolpath

3 **What does CAM stand for in the context of Mastercam?**

A) Computer-aided modeling

B) Computer-aided machining

C) Computer-aided measurement

D) Computer-aided management

Answer: B) Computer-aided machining

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4 Which feature in Mastercam allows you to simulate the machining process to detect errors?

A) Verify

B) Render

C) Draft

D) Assemble

Answer: A) Verify

5 In Mastercam, what does the term 'post-processing' refer to?

A) Finalizing CAD models

B) Optimizing toolpaths

C) Generating G-code for CNC machines

D) Rendering 3D images

Answer: C) Generating G-code for CNC machines

6 Which toolpath strategy in Mastercam is used for machining complex 3D shapes?

A) 2D milling

B) 3D milling

C) Turning

D) Wire EDM

Answer: B) 3D milling

7 What is the purpose of Mastercam's 'Verify' function?

A) To check the spelling of tool names

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B) To simulate toolpaths and verify machining operations

C) To render high-quality images

D) To measure distances between features

Answer: B) To simulate toolpaths and verify machining operations

8 **Which file format is commonly used for saving toolpath data in Mastercam?**

A) .exe

B) .jpg

C) .nc

D) .doc

Answer: C) .nc

9 **What role does Mastercam play in the manufacturing process?**

A) Designing prototypes

B) Programming CNC machines

C) Testing software applications

D) Analyzing market trends

Answer: B) Programming CNC machines

10 **Which of the following is NOT a primary feature of Mastercam?**

A) 3D modeling

B) Multi-axis machining

C) Finite element analysis

D) High-speed machining

Answer: C) Finite element analysis

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Marking Scheme

Sr. No.	Assessment Component	Marks Allocation
1	Multiple-Choice Questions (MCQ)	20 marks
2	Total	20 marks

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Date: 10/7/19

To,

Head of Mechanical Engg.

ICEEM

Aurangabad,

Subject: Sanction for the Introduction of the Course "Master Cam" for BE Students for the Academic Year 2019-20

Dear Sir,

I am pleased to inform you that the College Development Committee has reviewed and approved your proposal to introduce the course " Master Cam " for the BE Mech students in the Mechanical Engg Department for the academic year 2019-20

We commend your initiative in proposing this course, which aligns with the college's commitment to providing our students with up-to-date and relevant educational opportunities. Approved Course Details:

Course Title: Master Cam

Department: Mechanical Engg.

Level: UG

Academic Year: 2019-20

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Director

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Certificate Course Distribution Record Mech. Year:-2019-2020

Course Name:- Master Cam

Sr No.	Name of Student	Signature
1	GANRAJ MANOJ SUBHASH	Ganraj
2	LAGHANE MAHESH NANDKUMAR	M. L.
3	MANDAL ARINDAM RABINDRA	Mandal
4	MUNDHE GANESH ANKUSH	Mundhe
5	RATHOD SACHIN LAXMAN	Rathod
6	RATHOR VIKAS RAMDAS	Vikas
7	SABBANWAR BAJRANG RAMESH	Bajrang
8	SILLODE NITESH RAMESH	Nitesh
9	WANKHEDE SANKET SANJAY	Sanket
10	YADAV KAPIL DEO	Kapil
11	BAJAJ RAVI MAHESHKUMAR	Bajaj
12	BEMBDE BALAJI BABAN	Balaji
13	BHARATE DINESH RAJU	Dinesh
14	BONDE KESHAV SUNIL	Keshav
15	GANGOTRI GANESH NARAYAN	Gangotri
16	JADHAV SACHIN KESHAVRAO	Sachin
17	KOLTE BHAGYASHRI ANIL	Kolte
18	MISHRA NIHAL MANMOHAN	Nihal
19	NAKOD ANURADHA VIJAY	Nakod
20	PAWAR ASHVINI GAJANAN	Ashwini

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Date: 4/1/19

To,

Director,

ICEEM

Aurangabad.

Subject: Proposal for Introducing a Course in "AutoCAD" for SE MECH Students for the Academic Year 2018-2019

Respected Sir,

I am writing to propose the Introducing a Course in "AutoCAD" for SE MECH Students for the Academic Year 2018-2019

This course explores the basics of AutoCAD software. Students will learn to the use of AutoCAD software through various sessions during this course.

I believe that introducing this course will significantly benefit our students and enhance the academic standards of our Mechanical Department. I kindly request you to consider this proposal and approve the introduction of "AutoCAD" as a part of the curriculum for the upcoming academic semester.

Thank you for considering my request. I am looking forward to your positive response.

The course Objectives, Course outline and Marking Scheme with Assessment are attached herewith this application.

Yours sincerely,

Head of Mechanical Department

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Course Objectives:

1. **Introduction to AutoCAD**: Familiarizing students with the interface, commands, and tools available in AutoCAD.
2. **Drawing and Editing**: Teaching students how to create and modify 2D and 3D drawings using various drawing and editing commands.
3. **Layer Management**: Understanding the concept of layers in AutoCAD and learning how to effectively organize drawings using layers.
4. **Dimensioning and Annotation**: Teaching students how to add dimensions and annotations to drawings to convey necessary information.
5. **Blocks and Attributes**: Introducing students to creating and using blocks and attributes to improve drawing efficiency and consistency.
6. **Basic 3D Modeling**: Providing an introduction to 3D modeling techniques in AutoCAD, including creating basic 3D shapes and objects.
7. **Rendering and Visualization**: Exploring rendering options and visualization techniques to create realistic representations of 3D models.
8. **Customization**: Allowing students to customize AutoCAD settings, tool palettes, and templates to suit specific workflow needs.
9. **Collaboration and Output**: Teaching methods for sharing AutoCAD drawings with others, including plotting, publishing, and exporting files in various formats.
10. **Problem Solving and Troubleshooting**: Developing skills in identifying and resolving common issues encountered while using AutoCAD.

Course Outline:

By the end of the course, students will be able to:

Effectively use AutoCAD as a professional tool for design, drafting, and collaboration in various industries requiring precision and accuracy in technical drawings and 3D modeling.

Benefits to Students:

Studying AutoCAD offers several benefits to students such as

1. **Improved Technical Skills**: Mastery of AutoCAD software enhances students' technical proficiency in computer-aided design (CAD), allowing them to create precise and detailed drawings efficiently.
2. **Career Readiness**: AutoCAD proficiency is a valuable asset in industries such as architecture, engineering, construction, manufacturing, and product design, making students

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more attractive to employers.

3. **Increased Employability**: Knowledge of AutoCAD opens doors to a wide range of job opportunities, including roles as CAD drafters, designers, technicians, and engineers.
4. **Efficiency and Productivity**: AutoCAD's tools and features streamline the design process, enabling students to produce drawings faster and with greater accuracy compared to traditional methods.
5. **Enhanced Design Visualization**: Students can create 2D drawings and 3D models that visualize concepts and designs effectively, aiding in communication and presentation of ideas.
6. **Collaborative Skills**: AutoCAD facilitates collaboration among team members by allowing them to work on the same project simultaneously, share files, and manage revisions efficiently.
7. **Professional Development**: Learning AutoCAD enhances students' professional development by preparing them for industry standards and practices, including the ability to adhere to drawing standards and conventions.
8. **Problem-Solving Abilities**: AutoCAD teaches students how to analyze design problems and find solutions using CAD tools and techniques, fostering critical thinking and problem-solving skills.
9. **Certification Opportunities**: Many AutoCAD courses offer preparation for Autodesk certification exams, which can validate students' skills and enhance their credibility in the job market.
10. **Foundation for Advanced Learning**: Proficiency in AutoCAD provides a solid foundation for students interested in pursuing further education or training in specialized areas of CAD software or related fields.

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AutoCAD Assessment

Multiple-Choice Questions (MCQs) Test Paper (20 Marks)

1. What does CAD stand for?

A. Computer Aided Design

B. Computer Aided Drafting

C. Computer Aided Drawing

D. Computer Aided Dimensioning

Answer: A

2. Which of the following is NOT a typical AutoCAD workspace environment?

A. Drafting & Annotation

B. 3D Modeling

C. Animation

D. AutoCAD Classic

Answer: C

3. Which AutoCAD command is used to draw a circle?

A. Line

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B. Rectangle

C. Circle

D. Arc

Answer: C

4. What is the purpose of the Trim command in AutoCAD?

A. To extend a line or object

B. To remove parts of objects that overlap

C. To create multiple copies of an object

D. To rotate an object around a specified point

Answer: B

5. Which command is used to change the properties of selected objects in AutoCAD?

A. Properties

B. Modify

C. Change

D. Adjust

Answer: A

6. In AutoCAD, what are layers used for?

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A. To group objects for easy selection

B. To apply different colors and line types to objects

C. To create 3D objects

D. To change the drawing scale

Answer: B

7. Which dimensioning command in AutoCAD is used to measure the angle between two lines?

A. Linear

B. Aligned

C. Angular

D. Radius

Answer: C

8. Which command is used to create a 3D solid box in AutoCAD?

A. Box

B. Cube

C. Extrude

D. Solid

Answer: A

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9. What does UCS stand for in AutoCAD?

A. Unified Coordinate System

B. User Coordinate System

C. Universal Coordinate System

D. Uniform Coordinate System

Answer: B

10. Which AutoCAD feature allows you to create and manage custom tools and tool palettes?

A. Tool Manager

B. Tool Organizer

C. Tool Palette

D. Tool Wizard

Answer: C

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Marking Scheme

Sr. No.	Assessment Component	Marks Allocation
1	Multiple-Choice Questions (MCQ)	20 marks
2	Total	20 marks

Kindly, consider it.

Thank you.

Head of Mechanical Department

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Tel.: 0240-2558101-10, Fax: 0240-2558111: E-mail: director@iceemabad.com, **Website: www.iceemabad.com**

Date: 09/01/2019

To,

Head of Mechanical Engg.

ICEEM

Aurangabad,

Subject: Sanction for the Introduction of the Course "Auto CAD" for SE Students for the Academic Year 2018-19

Dear Sir,

I am pleased to inform you that the College Development Committee has reviewed and approved your proposal to introduce the course " Auto CAD " for the SE Mech students in the Mechanical Engg Department for the academic year 2018-19

We commend your initiative in proposing this course, which aligns with the college's commitment to providing our students with up-to-date and relevant educational opportunities. Approved Course Details:

Course Title: Auto CAD

Department: Mechanical Engg.

Level: UG

Academic Year: 2018-19

Director

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Certificate Course Distribution Record Mech. Year:-2018-2019

Course Name:- AutoCAD

Sr No.	Name of Student	Signature
1	CHANDANSE PRAVIN SUBHASH	
2	DAHAKLE SUNIL AAPPAJI	
3	RATHOD SAIPRASAD EKNATH	
4	VISHWAKARMA SHUBHAM RAMJI	
5	APTURKAR MONIKA	
6	BAHAD PRATEEK	
7	BAJODE MAYUR	
8	BAPMARE GOVIND	
9	BARIDE KISHOR	
10	BHADAIT ARUN	
11	BHALERAO ABHILESH	
12	BIRAJDAR KRANTI	
13	BORDE ANAND	
14	CHAKOTKAR GANESH	
15	CHANDEWAR PRIJETA	
16	CHARATE AKASH	
17	DAMDHAR AKSHAY	
18	DEOKAR SHUBHAM	
19	DESHMUKH ANIKET	
20	DESHPANDE DEVDATTA	
21	DESHPANDE RUTUJA	
22	DEVKAR VIVEK	
23	DHAGE PANKAJ	
24	DHANEDHAR SUBHASH	
25	FASATE PINKESHWAR	
26	FERAN SHIVAM	
27	GAIKWAD SATISH	
28	GAJAKOSH GANESH	
29	GAJBHIYE SHUBAM	
30	GARAD RAHUL	
31	GONGE PRATIK	
32	HARI BHUTEKAR KUNAL	

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33	HIWRALE JAYASHRI	
34	HUZEFA BANARSI	
35	JADHAV AJAY LAXMAN	
36	JADHAV AJAY VIJAY	
37	JADHAV RUTIK	
38	JADHAV SHUDDHAMATI	
39	JADHAV VISHAL	
40	KADLAG RAHUL	
41	KAKDE SACHIN	
42	KALE PALLAVI	
43	KHARAD DHANANJAY	
44	KHUNE SWAPNIL	
45	KOLI CHAITALI	
46	KURE SUNIL	
47	KUTE KAVITA	
48	LACHURIYE KANCHAN	
49	LENDE VIKAS	
50	LOKHANDE ROHIT	
51	MANDAVKAR AMOL	
52	MANE AAKASH	
53	MORE ARJUN	
54	MORE DEEPAK	
55	MOURYA DEEPAK	
56	NIMROT AJAY	
57	NIMBOLKAR YOGESH	
58	PADALIKAR KASHINATH	
59	PAGAR POOJA	
60	PATHAN AAREF	
61	PATIL CHHAYA DILIP	
62	PATIL SUMIT	
63	POUL SANDIP	
64	PUJARI ANUJA	
65	RAHATWAD AJAY	
66	RATHOD VISHNU	
67	RAUT AKSHAY	
68	RAUT PRAJWAL	
69	SHELKE BHUPENDRA	
70	SONAWANE NIKHIL	

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Date: 9/1/19

To,

Director,

ICEEM

Aurangabad.

Subject: Proposal for Introducing a Course in "Ansys" for TE MECH Students for the Academic Year 2018-19

Respected Sir,

I am writing to propose the Introducing a Course in "Ansys" for TE MECH Students for the Academic Year 2018-19

This course explores the basics of Ansys software. Students will learn to the use of ANSYS software through various sessions during this course.

I believe that introducing this course will significantly benefit our students and enhance the academic standards of our Mechanical Department. I kindly request you to consider this proposal and approve the introduction of "Ansys" as a part of the curriculum for the upcoming academic semester.

Thank you for considering my request. I am looking forward to your positive response.

The course Objectives, Course outline and Marking Scheme with Assessment are attached herewith this application.

Yours sincerely,

Head of Mechanical Department

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Tel.: 0240-2558101-10, Fax: 0240-2558111: E-mail: director@iceemabad.com, **Website: www.iceemabad.com**

Course Objectives:

1. **Introduction to ANSYS**: Gain familiarity with ANSYS software suite, its interface, and capabilities.
2. **Finite Element Analysis (FEA)**: Learn fundamental concepts of FEA and how to apply them using ANSYS for structural, thermal, and fluid dynamics simulations.
3. **Simulation Workflow**: Understand the workflow of setting up, solving, and post-processing simulations in ANSYS.
4. **Structural Analysis**: Develop skills in performing static, dynamic, and modal analysis of mechanical components and assemblies.
5. **Thermal Analysis**: Learn to simulate heat transfer phenomena such as conduction, convection, and radiation using ANSYS.
6. **Fluid Dynamics Analysis**: Gain proficiency in simulating fluid flow and heat transfer using ANSYS CFD (Computational Fluid Dynamics).
7. **Multiphysics Simulations**: Explore capabilities for coupled-field analysis, such as fluid-structure interaction (FSI) or thermal-electrical coupling.
8. **Optimization and Design Exploration**: Utilize ANSYS tools for design optimization and exploring design alternatives based on simulation results.
9. **Verification and Validation**: Understand methods for verifying and validating simulation results against experimental data or analytical solutions.
10. **Industry Applications**: Apply ANSYS skills to real-world engineering problems across various industries, such as aerospace, automotive, biomedical, and manufacturing.
11. **Project Work**: Engage in hands-on projects to apply ANSYS simulations to solve complex engineering problems and demonstrate proficiency.
12. **Best Practices and Efficiency**: Learn best practices for setting up simulations, optimizing computational resources, and interpreting results effectively.

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Course Outline:

Module 1: Introduction to ANSYS

- Overview of ANSYS software suite
- Introduction to simulation-driven product development
- Understanding the user interface and navigation in ANSYS Workbench

Module 2: Fundamentals of Finite Element Analysis (FEA)

- Basics of finite element method (FEM)
- Introduction to FEA concepts and terminology
- Hands-on: Setting up a simple FEA model in ANSYS

Module 3: Structural Analysis with ANSYS Mechanical

- Static structural analysis
- Modal analysis (Eigenvalue analysis)
- Dynamic analysis (Transient and harmonic)
- Fatigue analysis and durability studies

Module 4: Thermal Analysis with ANSYS Mechanical

- Conduction heat transfer analysis
- Convection heat transfer analysis
- Radiation heat transfer analysis
- Thermal stress analysis

Module 5: Fluid Dynamics Analysis with ANSYS Fluent

- Introduction to computational fluid dynamics (CFD)
- Flow simulation basics
- Turbulent flow modeling
- Heat transfer in fluids

Module 6: Multiphysics Simulations

- Fluid-structure interaction (FSI)
- Thermal-electrical coupling
- Thermal-structural coupling

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Module 7: Optimization and Design Exploration

- Design optimization techniques
- Parametric studies
- Response surface methodology (RSM)

Module 8: Introduction to ANSYS Workbench

- Workflow management in ANSYS Workbench
- Integration of different ANSYS modules (Mechanical, Fluent, etc.)
- Project organization and data management

Module 9: Verification and Validation

- Methods for verifying simulation results
- Validation against experimental data or analytical solutions
- Uncertainty quantification and sensitivity analysis

Module 10: Advanced Topics

- Nonlinear structural analysis
- Multiphase flow simulation
- Acoustic and electromagnetic simulations

Module 11: Industry Applications

- Case studies from aerospace, automotive, biomedical, and other industries
- Application of ANSYS in real-world engineering problems

Module 12: Project Work

- Hands-on projects to apply ANSYS simulations to solve complex engineering problems
- Presentation of project results and findings

Module 13: Best Practices and Efficiency

- Best practices for setting up simulations
- Optimizing computational resources
- Interpreting simulation results effectively

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Module 14: Certification Preparation (Optional)

- Review sessions for ANSYS certification exams
- Practice tests and quizzes

Module 15: Conclusion and Future Trends

- Summary of key learnings
- Emerging trends in engineering simulation and ANSYS technology

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Ansys Assessment

Multiple-Choice Questions (MCQs) Test Paper (20 Marks)

1 **What does ANSYS primarily facilitate?**

A) Computer-aided design (CAD)

B) Computer-aided manufacturing (CAM)

C) Engineering simulation and analysis

D) 3D printing

Answer: C) Engineering simulation and analysis

2 **Which module in ANSYS is used for structural analysis?**

A) Fluent

B) Mechanical

C) CFX

D) DesignModeler

Answer: B) Mechanical

3 **What is the main purpose of using ANSYS Fluent?**

A) Structural analysis

B) Thermal analysis

C) Fluid dynamics simulation

D) Optimization

Answer: C) Fluid dynamics simulation

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4 Which type of analysis does ANSYS Mechanical specialize in?

A) Thermal

B) Structural

C) Electromagnetic

D) Acoustic

Answer: B) Structural

5 What is the function of ANSYS Workbench?

A) Creating CAD models

B) Integrating different ANSYS modules

C) Generating G-code for machining

D) Performing mathematical calculations

Answer: B) Integrating different ANSYS modules

6 Which analysis type is NOT typically performed using ANSYS software?

A) Fluid dynamics

B) Circuit simulation

C) Thermal analysis

D) Electromagnetics

Answer: B) Circuit simulation

7 What does the 'verification' process in ANSYS involve?

A) Checking simulation setup for errors

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B) Checking the spelling of tool names

C) Rendering high-quality images

D) Analyzing market trends

Answer: A) Checking simulation setup for errors

8 **Which file format is commonly used for importing geometry into ANSYS?**

A) .exe

B) .stp

C) .jpg

D) .doc

Answer: B) .stp

9 **What role does ANSYS play in the product development cycle?**

A) Manufacturing prototypes

B) Optimizing toolpaths

C) Simulating and analyzing product performance

D) Creating marketing materials

Answer: C) Simulating and analyzing product performance

10 **Which of the following is NOT a primary feature of ANSYS?**

A) 3D modeling

B) Multi-physics simulations

C) Thermal analysis

D) Web development

Answer: D) Web development

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Marking Scheme

Sr. No.	Assessment Component	Marks Allocation
1	Multiple-Choice Questions (MCQ)	20 marks
2	Total	20 marks

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Tel.: 0240-2558101-10, Fax: 0240-2558111: E-mail: director@iceemabad.com, **Website: www.iceemabad.com**

Date: 09/01/2019

To,

Head of Mechanical Engg.

ICEEM

Aurangabad,

Subject: Sanction for the Introduction of the Course "Ansys" for TE Students for the Academic Year 2018-19

Dear Sir,

I am pleased to inform you that the College Development Committee has reviewed and approved your proposal to introduce the course " Ansys " for the TE Mech students in the Mechanical Engg Department for the academic year 2018-19

We commend your initiative in proposing this course, which aligns with the college's commitment to providing our students with up-to-date and relevant educational opportunities. Approved Course Details:

Course Title: Ansys

Department: Mechanical Engg.

Level: UG

Academic Year: 2018-19

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Director

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Certificate Course Distribution Record Mech. Year:-2018-2019

Course Name:- ANSYS

Sr No.	Name of Student	Signature
1	Sanket S.Wankhede	
2	Laghane Mahesh Nandkumar	
3	Kale Satish S.	
4	Nitesh Sillode	
5	Ganesh Mundhe	
6	Rathod Vikas R.	
7	Kingaonkar Abhijeet J.	
8	Rathod Sachin L.	
9	Sabbanwar Bajrang Ramesh	
10	Wade Vyanktesh	
11	Arindam Mandal	
12	Shelke Radhakishan Tukaram	
13	Kolte Bhagyashree A	
14	Jadhav Sachin	
15	Bharate Dinesh	
16	Kapre Rameshwar	
17	Arun Chaubey	
18	Deshmukh Rahul	
19	Vaidya Mangesh S	
20	Harshad Deshpande	
21	Bembde Balaji B	
22	Sachin Birajdar	
23	Yerne Dipak S	
24	Kathore Nitin	
25	Patil Pravin	
26	Rathi Dipali	
27	Toke Pritam	
28	Pawar Ashwini	
29	Bajaj Ravi	
30	Khandagle Kajal	

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31	Kiran Arsul	
32	Bhavar Amol S	
33	Lade Samir	
34	Nihal Mishra	
35	Fasate Mukund	
36	Sigarkanti Gurusharan H	
37	Patil Harshali Dilip	
38	Bhimrot Shubham Khhupchand	
39	Shinde Mahesh Dattu	
40	Pawar Shrikishn Subhash	
41	Gangotri Ganesh Narayan	
42	Kharate Amaraja Rajesh	
43	Nakod Anuradha Vijay	
44	Kajale Rushikesh Abasaheb	
45	Bhagat Amit Govindrao	
46	Mule Hanumant	
47	Gaurav Warpe	
48	Dhande Ajay Shaligram	
49	Deshmukh Shripad	
50	Dhore Rajashri	

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Date: 4/1/19

To,

The Director,

ICEEM

Aurangabad.

Subject: Proposal for Introducing a Course in "3-D modelling" for BE MECH Students for the Academic Year 2018-19

Respected Sir,

I am writing to propose the Introducing a Course in "3-D modelling" for BE MECH Students for the Academic Year 2018-19

This course explores the basics of 3-D modeling software. Students will learn to the use of 3-D modeling software through various sessions during this course.

I believe that introducing this course will significantly benefit our students and enhance the academic standards of our Mechanical Department. I kindly request you to consider this proposal and approve the introduction of "3-D modeling" as a part of the curriculum for the upcoming academic semester.

Thank you for considering my request. I am looking forward to your positive response.

The course Objectives, Course outline and Marking Scheme with Assessment are attached herewith this application.

Yours sincerely,

Head of Mechanical Department

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Course Objectives:

1. **Introduction to 3-D modelling**: Familiarizing students with the interface, commands, and tools available in 3-D modelling.
2. **Drawing and Editing**: Teaching students how to create and modify 2D and 3D drawings using various drawing and editing commands.
3. **Layer Management**: Understanding the concept of layers in 3-D modelling and learning how to effectively organize drawings using layers.
4. **Dimensioning and Annotation**: Teaching students how to add dimensions and annotations to drawings to convey necessary information.
5. **Blocks and Attributes**: Introducing students to creating and using blocks and attributes to improve drawing efficiency and consistency.
6. **Basic 3D Modeling**: Providing an introduction to 3D modeling techniques in 3-D modelling, including creating basic 3D shapes and objects.
7. **Rendering and Visualization**: Exploring rendering options and visualization techniques to create realistic representations of 3D models.
8. **Customization**: Allowing students to customize 3-D modelling settings, tool palettes, and templates to suit specific workflow needs.
9. **Collaboration and Output**: Teaching methods for sharing 3-D modelling drawings with others, including plotting, publishing, and exporting files in various formats.
10. **Problem Solving and Troubleshooting**: Developing skills in identifying and resolving common issues encountered while using 3-D modelling.

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Course Outline:

By the end of the course, students will be able to:

Effectively use 3-D modeling as a professional tool for design, drafting, and collaboration in various industries requiring precision and accuracy in technical drawings and 3D modeling.

Benefits to Students:

Studying 3-D modeling offers several benefits to students such as

1. **Improved Technical Skills**: Mastery of 3-D modelling software enhances students' technical proficiency in computer-aided design (CAD), allowing them to create precise and detailed drawings efficiently.
2. **Career Readiness**: 3-D modelling proficiency is a valuable asset in industries such as architecture, engineering, construction, manufacturing, and product design, making students more attractive to employers.
3. **Increased Employability**: Knowledge of 3-D modelling opens doors to a wide range of job opportunities, including roles as CAD drafters, designers, technicians, and engineers.
4. **Efficiency and Productivity**: 3-D modelling's tools and features streamline the design process, enabling students to produce drawings faster and with greater accuracy compared to traditional methods.
5. **Enhanced Design Visualization**: Students can create 2D drawings and 3D models that visualize concepts and designs effectively, aiding in communication and presentation of ideas.
6. **Collaborative Skills**: 3-D modelling facilitates collaboration among team members by allowing them to work on the same project simultaneously, share files, and manage revisions efficiently.
7. **Professional Development**: Learning 3-D modelling enhances students' professional development by preparing them for industry standards and practices, including the ability to adhere to drawing standards and conventions.
8. **Problem-Solving Abilities**: 3-D modelling teaches students how to analyze design problems and find solutions using CAD tools and techniques, fostering critical thinking and problem-solving skills.

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9. **Certification Opportunities**: Many 3-D modelling courses offer preparation for Autodesk certification exams, which can validate students' skills and enhance their credibility in the job market.
10. **Foundation for Advanced Learning**: Proficiency in 3-D modelling provides a solid foundation for students interested in pursuing further education or training in specialized areas of CAD software or related fields.

3-D modeling Assessment

Multiple-Choice Questions (MCQs) Test Paper (20 Marks)

Question 1:

Which software is commonly used for 3D modeling in the entertainment industry? A) AutoCAD

B) SolidWorks

C) Blender

D) SketchUp

Answer: C) Blender

Question 2:

What is a polygon in 3D modeling? A) A 3D shape with curved surfaces

B) A flat shape with straight sides

C) A vertex in a 3D model

D) A type of texture mapping

Answer: B) A flat shape with straight sides

Question 3:

Which file format is typically used to export 3D models for printing? A) .STL

B) .JPEG

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C) .MP4

D) .PDF

Answer: A) .STL

Question 4:

In 3D modeling, what is the process of creating a smooth transition between two surfaces called? A) Extrusion

B) Boolean operation

C) Filleting

D) Chamfering

Answer: C) Filleting

Question 5:

Which term refers to the point where two edges of a 3D model meet? A) Edge

B) Face

C) Vertex

D) Polygon

Answer: C) Vertex

Question 6:

What is the purpose of UV mapping in 3D modeling? A) To create animations

B) To apply textures to a 3D model

C) To build a skeleton for a model

D) To simulate lighting effects

Answer: B) To apply textures to a 3D model

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Question 7:

Which of the following is a commonly used 3D modeling technique? A) Rasterization

B) Vectorization

C) Sculpting

D) Filtering

Answer: C) Sculpting

Question 8:

In 3D modeling, what is a "mesh"? A) A single line in a model

B) A collection of vertices, edges, and faces that define the shape of a 3D object

C) A type of material used in rendering

D) A lighting effect

Answer: B) A collection of vertices, edges, and faces that define the shape of a 3D object

Question 9:

What is the function of a "modifier" in 3D modeling software like Blender? A) To change the color of the model

B) To alter the geometry of a model in a non-destructive way

C) To export the model

D) To apply lighting effects

Answer: B) To alter the geometry of a model in a non-destructive way

Question 10:

Which software is known for its parametric modeling capabilities, often used in engineering and architecture? A) Blender

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B) AutoCAD

C) SolidWorks

D) ZBrush

Answer: C) SolidWorks

Marking Scheme

Sr. No.	Assessment Component	Marks Allocation
1	Multiple-Choice Questions (MCQ)	20 marks
2	Total	20 marks

Head of Department

CAMPUS DIRECTOR
International Centre of
Excellence In Engg. & MGMT.
Aurangabad

IIRW's

International Centre of Excellence in Engineering and Management

Gut No.4, Opposite Bajaj Auto Ltd, Aurangabad-Pune Highway, Aurangabad 431136. (M.S.)

Tel.: 0240-2558101-10, Fax: 0240-2558111: E-mail: director@iceemabad.com, **Website: www.iceemabad.com**

Date: 09/01/2019

To,

Head of Mechanical Engg.

ICEEM

Aurangabad,

Subject: Sanction for the Introduction of the Course "3-D Modelling" for BE Students for the Academic Year 2018-19

Dear Sir,

I am pleased to inform you that the College Development Committee has reviewed and approved your proposal to introduce the course " 3-D Modelling " for the BE Mech students in the Mechanical Engg Department for the academic year 2018-19

We commend your initiative in proposing this course, which aligns with the college's commitment to providing our students with up-to-date and relevant educational opportunities. Approved Course Details:

Course Title: 3-D Modelling

Department: Mechanical Engg.

Level: UG

Academic Year: 2018-19

CAMPUS DIRECTOR
International Centre of
Excellence In Engg. & MGMT.
Aurangabad

Director

International Centre of Excellence in Engineering and Management
Gut No.4, Opposite Bajaj Auto Ltd, In Front of MIDC Filtration Plant, Aurangabad-Pune Highway, Aurangabad 431136. (M.S.)
Tel.: 0240-2558101-10, Fax: 0240-2558111: E-mail: director@iceemabad.com, **Website: www.iceemabad.com**

Certificate Course Distribution Record Mech. Year:-2018-2019

Course Name:- 3-D Modelling

Sr No.	Name of Student	Signature
1	NIRMAL SAMSON LAMUEL	
2	SHARIFF ATEEQ GALIB	
3	BHOGE VINOD SANTARAM	
4	LOKHANDE AKSHAY ANAND	
5	KANKUTE KALIDAS GOVIND	
6	MOTE SHUBHAM BABAN	
7	TAKE PRASHANT BHAUSAHEB	
8	TUPE MAHESH RAJENDRA	
9	GAVALI ATUL KACHARU	
10	THORAT MAHESH SAVALIRAM	
11	BHOKRE RAJRAJESHWAR BHIMRAO	
12	TIWARY MANGALESH ANGAD	
13	CHANGHTE DIPAK DADAPATIL	
14	JOSHI ANIKET SHARAD	
15	KHANDEBHARAD AKASH PRAKASH	
16	KANADE DHANANJAY NARAYAN	
17	NIMGAONKAR SANTOSH RAJENDRA	
18	BALATKAR NILIMA DNYANOBA	
19	DABHADE RUSHIKESH SHRIRAM	
20	GAWAI SUSHIL KARBHARI	
21	MANE SACHIN NAGENDRA	
22	BHAWAR PRATIK KARBHARI	
23	MALI SHISHIR	
24	GAIKWAD SWAPNIL KAKASAHEB	
25	SHENGULE KRISHNA	
26	GAJBHAR NAGESH	
27	SONUNE PAWAN	
28	TALURI NARSIMHA	
29	MISHRA CHETAN Y	
30	THORAT MAHESH SAVALIRAM	

CAMPUS DIRECTOR
International Centre of
Excellence In Engg. & MGMT.
Aurangabad