



# ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

Shobhavana Campus, Mijar, Moodbidri, D.K – 574225

Phone: 08258- 262725, Fax: 08258-262726

## Department of Mechanical Engineering

### ACADEMICS YEAR 2016-17

#### Summary Report of Add-on / Certificate program with its Outcomes

##### Title of the Course: CATIA and ANSYS

**Learning Outcomes :** The student have learnt to

- Demonstrate competency with multiple drawing and modification commands in CATIA.
- Create three-dimensional solid models.
- Create three-dimensional assemblies incorporating multiple solid models.
- Apply industry standards in the preparation of technical mechanical drawings.
- Create Simulation of the assemblies incorporating multiple solid models.
- use the ANSYS package to solve basic engineering analysis problems using FEA techniques.

##### Title of The course : INDUSTRIAL SAFETY ENGINEERING

**Course Outcomes :** The student have learnt to:

- Understand the basic safety terms and international standards.
- Identify the hazards and risk analysis around the work environment and industries.
- Use the safe measures while performing work in and around the work area of the available laboratories. Able to recognize the sign boards and its application
- Recognise the types of fires extinguishers and to demonstrate the portable extinguishers used for different classes of fires.
- Report the case studies by sharing experience of the employees working in housekeeping, laboratories like workshops, electrical labs, machine shops, electronics and computer laboratories.
- Recognise the chemical and electrical hazards for its prevention and control

##### Title of the Course: Fire and Safety in Industry

**Course Outcomes :** The student have learnt to

- Understand the basic safety terms and international standards.
- Use the safe measures while performing work in and around the work area of the available laboratories. Able to recognize the sign boards and its applications
- Identify the hazards and risk analysis around the work environment and industries
- Recognise the types of fires extinguishers and to demonstrate the portable extinguishers used for different classes of fires.

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### ACADEMICS YEAR 2017-18

#### Summary Report of Add-on / Certificate program with its Outcomes

**Title of the Course:** QUALITY CONTROL [DESTRUCTIVE/NON DESTRUCTIVE TESTING]

**Learning Outcomes :** The student have learnt to

- select an appropriate NDT technique as per requirement
- set various process parameters and control the NDT process for the desired output parameters.
- Find the internal flaws in the material by NDT and take measures to eliminate them.
- Various problems encountered like leakage, cracks, blowholes etc with the manufacturing process by analyzing the data.
- competent enough to make use of modern tools and softwares for analyzing and solving real life problems
- introduce environmental friendly solutions to achieve organizational sustainability

**Title of The course :** GENERAL FABRICATION WORK

**Course Outcomes :** The student have learnt to

- Build thorough knowledge of various tools, machines, devices used in engineering practice.
- Acquire thorough knowledge of carrying out various operations in mechanical engineering workshop
- Utilize measuring skills gained in workshop practice
- Acquire “Hands on” training and practice to students for use of various tools, devices and machines
- Acquire skills in basic engineering practice for creating objects from raw materials
- Utilize practical skills in guiding works the trades

**Title of the Course:** CERTIFICATION COURSES ON QUALITY PROCESS

**Course Outcomes :** The student have learnt to

- Understand the fundamental principles of Total Quality Management
- Choose appropriate statistical techniques for improving processes
- Develop research skills that will allow them to keep abreast of changes in the field of Total Quality Management

  
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### ACADEMICS YEAR 2018-19

#### Summary Report of Add-on / Certificate program with its Outcomes

##### Title of the Course: CATIA TRAINING

**Course Outcomes:** The student have learnt to

- Do advanced solutions for conceptual design, 3D modeling, and documentation.
- Do product design, industrial design and styling (optimize form, fit, function and user experience), streamline 2D design, drafting, documentation with powerful tools for layout, drawing, and 3D annotation You will do assembly design, sheet metal design, and template based design
- Perform CAE geometry editing, comprehensive meshing, fine element assembly management, multi-CAE environments.

##### Title of The course : Ansys for FEA

**Course Outcomes :** The student have learnt to

- Understand the concepts behind formulation methods in FEM.
- Identify the application and characteristics of FEA elements such as bars, beams, plane and iso-parametric elements.
- Develop element characteristic equation and generation of global equation.
- Able to apply suitable boundary conditions to a global equation for bars, trusses, beams, circular shafts, heat transfer, fluid flow, axi symmetric and dynamic problems and solve them displacements, stress and strains induced.

##### Title of the Course: ADDITIVE MANUFACTURING & 3D PRINTING

**Course Outcomes :** The student have learnt to

- Demonstrate knowledge of key historical factors that have shaped manufacturing over the centuries Explain current and emerging 3D printing applications in a variety of industries
- Describe the advantages and limitations of each 3D printing technology
- Evaluate real-life scenarios and recommend the appropriate use of 3D printing technology
- Identify opportunities to apply 3D printing technology for time and cost savings
- Discuss the economic implications of 3D printing including its impact on startup businesses and supply chains
- Design and print objects containing moving parts without assembly

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ACADEMICS YEAR 2019-20

Summary Report of Add-on / Certificate program with its Outcomes

Title of the Course: ANSYS

Learning Outcomes: The student have learnt to

- Understand the concepts behind formulation methods in FEM.
- Identify the application and characteristics of FEA elements such as bars, beams, plane and iso-parametric elements.
- Develop element characteristic equation and generation of global equation.
- Able to apply suitable boundary conditions to a global equation for bars, trusses, beams, circular shafts, heat transfer, fluid flow, axi symmetric and dynamic problems and solve them displacements, stress and strains induced..

Title of The course : CATIA

Course Outcomes : The student have learnt to

- Demonstrate competency with multiple drawing and modification commands in CATIA.
- Create three-dimensional solid models.
- Create three-dimensional assemblies incorporating multiple solid models.
- Apply industry standards in the preparation of technical mechanical drawings.
- Create Simulation of the assemblies incorporating multiple solid models

Title of the Course: CNC

Course Outcomes : The student have learnt to

- Appreciate the importance of CNC lathe and CNC Milling machines
- Understand the codes (G-code and MCode) used in CNC machines for programming
- Develop Programming skills and create an component for required drawing, Simulate the prepared part programme using available simulation software's. And Prepare the parts on CNC

Title of the Course : HANDS ON FABRICATION WORK

Course Outcomes : The student have learnt to

- Build thorough knowledge of various tools, machines, devices used in engineering practice.
- Acquire thorough knowledge of carrying out various operations in mechanical engineering workshop
- Utilize measuring skills gained in workshop practice
- Acquire "Hands on" training and practice to students for use of various tools, devices and machines
- Acquire skills in basic engineering practice for creating objects from raw materials Utilize practical skills in guiding works the trades

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### ACADEMICS YEAR 2020-21

#### Summary Report of Add-on / Certificate program with its Outcomes

**Title of the Course:** Applied Thermal Engineering

**Learning Outcomes:** The student have learnt to

- apply advanced thermal engineering concepts in the design of engineering equipment/ systems.
- utilize non-conventional energy resources for the development of ecofriendly thermal systems
- Independently carry out research/investigation and development work to solve thermal engineering problems.

**Title of The course :** Computer Aided Design and Drafting Course

**Course Outcomes :** The student have learnt to

- Utilize CADD software to create 3D CADD models of various manufactured products and their components to create and interpret engineering drawings at an industry entry skill level.

  
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