Long Term Courses (B)

ADMISSION ON FIRST CUN FIRST SERVE BASIS

Career Oriented In Courses (BE / DME / ITI / SSC)

1

Name Of The Course	**POST GRADUATE DIPLOMA IN TOOL DESIGN & CAD/CAM (PGDTD&CC)** **NSQF LEVEL- 8**		
Objectives	To be acquainted with modern Tool Design & CAD/CAM Technology To plan and execute the Design & Manufacturing of Press Tools, Plastic Moulds, Die Casting Dies, Jigs & Fixtures, etc. Using Computer Aided Design, Computer Aided Manufacturing, CNC Programming & Machining.		
Duration	18 Months		
Course Fees	Rs. 90,000/-		
Eligibility	Degree in Engg. (Mech./Prod./Automobile) or Equivalent		
Course Contents	**First Semester** 1. CNC PROGRAMMING & CNC MACHINING 2. COMPUTER AIDED DESIGN (CAD-Auto CAD/Collab CAD & Solid works) 3. AIDED MANUFACTURING (Master CAM & Unigraphics CAM) 4. JIGS, FIXTURES AND GAUGES 5. DESIGN OF PRESS TOOLS 6. DESIGN OF MOULDS	**Second Semester** 7. DESIGN OF DIE CASTING DIES 8. ADVANCED METROLOGY 9. ADVANCED-CAD-I (Unigraphics & CATIA) 10. MANUFACTURING PROCESS-PROCESS PLANNING AND HEAT TREATMENT 11. ADVANCED-CAD-II (PRO-E) 12. COMPUTER AIDED ENGINEERING (ANSYS) 13. RAPID PROTOTYPING AND REVERSE ENGINEERING	**Third Semester** 14 ENTREPRENEURSHIP 15. ENGINEERING RESEARCH METHODOLOGY 16. COURSE-WORK: PROJECT

2

Name Of The Course	**POST GRADUATE DIPLOMA IN MECHANICAL PRODUCT DESIGN (PGDMPD)** **NSQF LEVEL- 8**		
Objectives	To be acquainted with Mechanical Product Design Techniques. To plan and execute the Mechanical Product Design using CAD/CAM & Additive Manufacturing.		
Duration	18 Months		
Course Fees	Rs. 90,000/-		
Eligibility	Degree in Engg. (Mech./Prod./Automobile) or Equivalent		
Course Contents	**First Semester** 1. PRODUCT DESIGN & DEVELOPMENT 2. QUALITY CONCEPTS IN DESIGN 3. MATERIAL IN PRODUCT DESIGN & DEVELOPMENT 4. RAPID PROTOTYPING 5. DIE DESIGN AND DEVELOPMENT 6. AUTOCAD	**Second Semester** 7. CREO 8. PRODUCT LIFE CYCLE MANAGEMENT 9. DESIGN MANAGEMENT 10. APPLIED ERGONOMICS 11. MICRO ELECTRO MECHANICAL SYSTEM 12. CAM(MASTER CAM) 13. HYPERMESH 14. REVERSE ENGINEERING	**Third Semester** 15. COURSE-WORK: PROJECT

3

Name of The Course	POST GRADUATE DIPLOMA IN MECHATRONICS(PGDIM) NSQF LEVEL- 8		
Objectives	To be acquainted with Mechatronics system controls. To plan & Execute automation solutions using PLC programming, SCADA, Hydraulics & Pneumatics.		
Duration	18 Months		
Course fees	Rs. 90,000/-		
Eligibility	Degree in Engg. (Mech./Electronics./Electricals) or Equivalent		
Course Contents	**First Semester** 1. FUNDAMENTALS FOR MECHATRONICS 2. ADVANCE METROLOGY & QUALITY CONTROL 3. ELECTRICAL CIRCUITS & PANELLING 4. INDUSTRIAL INSTRUMENTATION & SENSORS 5. ELECTRICAL CAD 6. POWER ELECTRONICS & DRIVES	**Second Semester** 7. HYDRAULICS & PNEUMATICS 8. MECHATRONICS SYSTEM DESIGN 9. INDUSTRIAL AUTOMATION 10. INDUSTRIAL EQUIPMENT MAINTENANCE & SAFETY 11. ADVANCED-CAD 12. EMBEDDED SYSTEM	**Third Semester** 13. ENTREPRENEURSHIP 14. ROBOTICS 15. TECHNOLOGY IN MECHATRONICS 16. WORK ON PROJECTS

4

Name of The Course	POST DIPLOMA IN TOOL DESIGN & CAD/CAM (PDTD&CC) NSQF LEVEL- 6	
Objectives	To be acquainted with modern Tool Design & CAD/CAM Technology. To plan and execute the Design of Press Tools Jigs & Fixtures, etc. Using Computer Aided Design, with Knowledge of Computer Aided Manufacturing, CNC Programming & Machining.	
Duration	12 Months	
Course fees	Rs. 60,000/-	
Eligibility	Degree/ Diploma in Engg. (Mech./Prod./Automobile) or Equivalent	
Course Contents	**First Semester** 1. CNC PROGRAMMING & CNC MACHINING 2.COMPUTER AIDED DESIGN (CAD-Auto CAD/Collab CAD & Solid works) 3. AIDED MANUFACTURING (Master CAM & Unigraphics CAM) 4. DESIGN OF JIGS, FIXTURES AND GAUGES 5. DESIGN OF PRESS TOOLS 6. DESIGN OF MOULDS	**Second Semester** 7. DESIGN OF DIE CASTING DIES 8. ENGINEERING METROLOGY & QUALITY CONTROL 9. ADVANCED CAD (Unigraphics & CATIA) 10. MANUFACTURING PROCESS-PROCESS PLANNING AND HEAT TREATMENT 11. ENTREPRENEURSHIP 12. COURSE-WORK: PROJECT

5

Name of The Course	POST DIPLOMA IN TOOL & DIE MANUFACTURING (PDTDM) NSQF LEVEL- 6	
Objectives	To be acquainted with modern Tool & Die Manufacturing Technology. To plan and execute the Manufacturing of Tool & Dies using latest Computer Aided Design, Computer Aided Manufacturing, CNC Programming & Machining Practices.	
Duration	12 Months	
Course fees	Rs.60,000/-	
Eligibility	Degree/ Diploma in Engg. (Mech./Prod./Automobile) or Equivalent	
Course Contents	**First Semester** 1.CNC PROGRAMMING AND CNC MACHINING 2. COMPUTER AIDED DESIGN (CAD-Auto CAD/Collab CAD and Solid works) 3. FUNDAMENTAL OF TOOL & DIE MANUFACTURING 4. ENGINEERING METROLOGY AND QUALITY ASSURANCE 5. PRODUCTION PLANNING & CONTROLS 6. COMPUTER AIDED MANUFACTURING (Master CAM & Unigraphics CAM) 7. ADVANCE CAM (Del cam 3 Axis and 5 Axis) 8. ENGINEERING MATERIALS & HEAT TREATMENT 9. TOTAL QUALITY MANAGEMENT 10. METAL CUTTING AND TOOL DESIGN 11. ENTREPRENEURSHIP	**Second Semester** COURSE-WORK: PROJECT

6

Name of The Course	POST DIPLOMA IN COMPUTER AIDED ENGINEERING (PDCAE) NSQF LEVEL- 6	
Objectives	To be acquainted with modern Tool Engineering Technology. To plan and execute the Manufacturing of Tool & Dies using latest Computer Aided Design, Computer Aided Manufacturing, CNC Programming & Machining Practices.	
Duration	12 Months	
Course fees	Rs. 60,000/-	
Eligibility	Degree/ Diploma in Engg. (Mech./Prod./Automobile) or Equivalent	
Course Contents	**First Semester** 1. AUTOCAD 2. UNIGRAPHICS (CAD) 3. DESIGN OF PLASTIC MOULD 4. DESIGN OF PRESS TOOL 5. HYPERMESH	**Second Semester** 6. ANSYS 7. MOULD X 3D 8. CREO 9. INTERSHIP / LIVE PROJECT

7

Name of The Course	POST DIPLOMA IN PRODUCT DESIGN (PDPD)	
Objectives	To be acquainted with Product Design Techniques. To plan and execute the Product Design using CAD/CAM & Additive Manufacturing.	
Duration	12 Months	
Course fees	Rs. 60,000/-	
Eligibility	Degree/ Diploma in Engg. (Mech./Prod./Automobile) or Equivalent	
Course Contents	**First Semester** CAD (Auto CAD) CAD (Solidworks) CAD (UNIGRAPHICS) Material Specification & Testing Engineering Metrology CAE (ANSYS) CAE (HYPERMESH) Reverse Engineering & Rapid Prototyping Product Design using Solid Thinking 3D Printing 3D Scanning Product Validation using Radios & Optistruct Project Product Design	**Second Semester** Live Projects in Production – Product Development

8

Name of The Course	POST DIPLOMA IN CNC MACHINE MAINTAINANCE (PDCMM)	
Objectives	To be acquainted with modern day machine Maintenance Techniques. To plan and execute the maintenance automation solutions using PLC Programming hydraulics & pneumatics, SCADA & other mechatronics system controls of the CNC machine & their maintenance.	
Duration	12 Months	
Course fees	Rs. 60,000/-	
Eligibility	Degree/ Diploma in Engg. (Mech./ Elec./ ETC/ Instru.) or Equivalent	
Course Contents	**First Semester** 1. BASIC HYDRAULIC & PNEUMATICS 2. BASIC ELECTRICALS 3. BASIC ELECTRONICS 4. BASIC OF MACHINE TOOLS 5. BASIC OF LUBRICATION 6. MACHINE MAINTENANCE PRACTICE	**Second Semester** 7. MTS & SIMULATION LAB 8. TEST CHART FUNDAMENTALS 9. TPM 10. WORKSHOP MAINTENANCE PRACTICE 11. INTERSHIP

9

Name of The Course	Post Diploma in Mechatronics(PDIM) NSQF LEVEL- 6	
Objectives	To be acquainted with Mechatronics system controls. To plan & execute the automation solution using PLC programming Hydraulics & Pneumatics, SCADA	
Duration	12 Months	
Course fees	Rs. 60,000/-	
Eligibility	Degree/ Diploma in Engg. (Mech. / Elec. / ETC / Instrumentation) Equivalent	
Course Contents	**First Semester** 1. MECHATRONICS FUNDAMENTALS 2. SENSORS AND ACTUATORS 3. PROGRAMMABLE LOGIC CONTROLLER 4. HYDRAULICS & PNEUMATICS 5. ENGINEERING METROLOGY & QUALITY CONTROL 6. COMPUTER AIDED DESIGN	**Second Semester** 7. ELECTRICAL DRIVES & CONTROL 8. ENTREPRENEURSHIP 9. MICROPROCESSORS & APPLICATIONS 10. MECHATRONICS LAB 12. SUPERVISORY CONTROL AND DATA ACQUISITION

10

Name of The Course	Post Diploma In VLSI & Embedded systems (PDVLSI & ES)	
Objectives	To be acquainted with ASIC Design and Verification, Embedded Design system. To plan & Design solutions for small size, high speed, high performance computational applications using VLSI & Embedded circuits.	
Duration	12 Months	
Course fees	RS. 60,000/-	
Eligibility	Degree/Diploma in Engg. (Mech. / Elec. / ETC / Instrumentation) or Equivalent	
Course Contents	**First Semester** Basics of Electronics Digital Electronics C Programming C++ Programming Electronics Circuit Design PCB Designing 8051 Microcontroller	**Second Semester** VLSI-Back End VLSI-Front End ARM7 LPC2148 Microcontroller PIC Microcontroller Live Projects- VLSI/Embedded (Either of the disciplines)

11

Name of The Course	POST DIPLOMA IN INDUSTRIAL AUTOMATION AND ROBOTICS(PDIA/R) NSQF LEVEL- 6	
Objectives	To be acquainted modern day industrial automation techniques. To plan & execute the industrial automation & robotics application using mechatronics system control.	
Duration	12 Months	
Course fees	RS. 60,000/-	
Eligibility	Degree/Diploma in Engg. (Mech. / Elec. / ETC / Instrumentation) or Equivalent	
Course Contents	**First Semester** 1. PROGRAMMABLE LOGIC CONTROLLER 2. SCADA 3. HMI 4. HYDRAULICS & PNEUMATICS 5. ELECTRICAL CAD 6. POWER ELECTRONICS (TH) 7. DRIVES	**Second Semester** 8. ELECTRICAL CIRCUITS & PANELLING 9. PROCESS INSTRUMENTATION 10. INDUSTRIAL AUTOMATION 11. ENTREPRENEURSHIP 12. ROBOTICS 13. TECHNOLOGY IN AUTOMATION

12

Name of The Course	ADVANCE CERTIFICATE COURSE IN TOOL DESIGN & CAD/CAM (ACCTD&CC) NSQF LEVEL- 5	
Objectives	To be acquainted with modern Tool Design & CAD/CAM Technology To plan and execute the Design of Press Tools Jigs & Fixtures, etc. Using Computer Aided Design, Computer Aided Manufacturing, CNC Programming & Machining	
Duration	12 Months	
Course fees	RS. 50,000/-	
Eligibility	Diploma in Engg. (Mech. /Prod.) or I.T.I. (Machinist / Turner / Bench Fitter / Tool & Die Maker) or Equivalent	
Course Contents	**First Semester** 1. CNC PROGRAMMING & CNC MACHINING 2. COMPUTER AIDED DESIGN (CAD-Auto CAD/Collab CAD & Solid works) 3. AIDED MANUFACTURING (Master CAM & Unigraphics CAM) 4. DESIGN OF JIGS, FIXTURES AND GAUGES 5. DESIGN OF PRESS TOOLS 6. DESIGN OF MOULDS	**Second Semester** 7. DESIGN OF DIE CASTING DIES 8. ENGINEERING METROLOGY & QUALITY CONTROL 9. ADVANCED CAD (Unigraphics & CATIA) 10. MANUFACTURING PROCESS-PROCESS PLANNING AND HEAT TREATMENT 11. ENTREPRENEURSHIP 12. COURSE-WORK: PROJECT

13

Name of The Course	ADVANCE CERTIFICATE COURSE IN TOOL & DIE MANUFACTURING (ACCTDM) NSQF LEVEL- 5	
Objectives	To be acquainted with modern Tool & Die Manufacturing Technology. To plan and execute the Manufacturing of Tool & Dies using latest Computer Aided Design, Computer Aided Manufacturing, CNC Programming & Machining Practices.	
Duration	12 Months	
Course fees	Rs.50,000/-	
Eligibility	Diploma in Engg. (Mech. /Prod.) or I.T.I. (Machinist / Turner / Bench Fitter / Tool & Die Maker) or Equivalent	
Course Contents	**First Semester** 1. CNC PROGRAMMING AND CNC MACHINING 2. COMPUTER AIDED DESIGN (CAD-Auto CAD/Collab CAD and Solid works) 3. FUNDAMENTAL OF TOOL & DIE MANUFACTURING 4. ENGINEERING METROLOGY AND QUALITY ASSURANCE 5. PRODUCTION PLANNING & CONTROLS 6. COMPUTER AIDED MANUFACTURING (Master CAM & Unigraphics CAM) 7. ADVANCE CAM (Del cam 3 Axis and 5 Axis) 8. ENGINEERING MATERIALS & HEAT TREATMENT 9. TOTAL QUALITY MANAGEMENT 10. METAL CUTTING AND TOOL DESIGN 11. ENTREPRENEURSHIP	**Second Semester** COURSE-WORK: PROJECT

Note:

- **New Batch for above courses (1 to 13) will be started from the first Monday of January, April, July & October of calendar year.**
- **Institute reserves right to incorporate changes in course contents, course duration, Intake Capacity, No. of Batches & Course Fees without prior notice.**
- **18% GST will be applicable on Course Fee, Registration Fee & Other Fee for Non NSQF Long Term Courses & will have to be borne by the trainee.**
- **For Non NSQF compliance courses course fee exemption in case of SC ST candidates is not applicable**

14

Name of The Course	ADVANCE CERTIFICATE COURSE IN CNC MACHINING (ACCCM) NSQF LEVEL- 5	
Objectives	To be acquainted with CNC Machining Techniques. To Programme & Handle CNC Machines (Lathe, Milling, Wire-cut & EDM)	
Duration	12 Months	
course fees	Rs. 50,000/-	
Eligibility	Diploma in Engg. (Mech. /Prod.) or I.T.I. (Machinist / Turner / Bench Fitter / Tool & Die Maker)	
Course Contents	**First Semester** 1. CNC PROGRAMMING AND CNC MACHINING 2. ENGINEERING METROLOGY & QUALITY ASSURANCE-THEORY 3. ENGINEERING METROLOGY AND QUALITY ASSURANCE-PRACTICAL 4. PRODUCTION PLANNING & CONTROLS 5. COMPUTER AIDED MANUFACTURING. (Master CAM) 6. ADVANCE CAM (Del cam 3 Axis and 5 Axis) 7. TOTAL QUALITY MANAGEMENT 8. FUNDAMENTALS OF METAL CUTTING 9. ENTREPRENEURSHIP	**Second Semester** COURSE-WORK: PROJECT

15

Name of The Course	ADVANCE CERTIFICATE COURSE IN MACHINE MAINTENANCE (ACCMM) NSQF LEVEL- 5	
Objectives	To be acquainted with CNC Machine Maintenance (Mechanical, Electrical, Electronics) with live projects on CNC Machine & Conventional Maintenance.	
Duration	12 Months	
Course fees	RS. 50,000/-	
Eligibility	Diploma in Engg. (Mech. / Prod.) or I.T.I. (Machinist / Turner / Electrician / Electronics / MMTM / MMTR / Tool & Die Maker)	
Course Contents	**First Semester** 1. BASIC HYDRAULIC & PNEUMATICS 2. BASIC ELECTRICALS 3. BASIC ELECTRONICS 4. BASIC OF MACHINE TOOLS 5. BASIC OF LUBRICATION 6. MACHINE MAINTENANCE PRACTICE	**Second Semester** 7. MTS & SIMULATION LAB 8. TEST CHART FUNDAMENTALS 9. TPM 10. WORKSHOP MAINTENANCE PRACTICE 11. INTERSHIP

16

Name of The Course	ADVANCE CERTIFICATE COURSE IN WELDING TECHNOLOGY (ACCWT) NSQF LEVEL- 5	
Objectives	To be acquainted with Advance Welding techniques with live projects on Arc Welding, Gas Welding, MIG / MAG Welding, TIG Welding.	
Duration	12 Months	
Course fees	RS. 50,000/-	
Eligibility	Diploma in Engg. (Mech. / Prod.) or I.T.I. (Machinist / Turner / Electrician / Electronics / MMTM / MMTR / Tool & Die Maker)	
Course Contents	**First Semester** 1. PERSONALITY DEVELOPMENT & COMPUTER LITERACY 2. ENGINEERING CALCULATION & SCIENCE 3. MECHANICAL DRAWING 4. WELDING TECHNOLOGY (THEORY) 5. WELDING TECHNOLOGY (PRACTICE)	**Second Semester** 6. PERSONALITY DEVELOPMENT & COMPUTER LITERACY 7. ENGINEERING CALCULATION & SCIENCE 8. MECHANICAL DRAWING 9. WELDING TECHNOLOGY (THEORY) 10. WELDING TECHNOLOGY (PRACTICE)

17

Name of The Course	**Certificate Course in CNC Turning & Milling (CCCTM) NSQF LEVEL- 4**	
Objectives	To be acquainted with Manufacture of Press Tools, Plastic Moulds, Jigs, Fixtures & Gauges, Die Casting Dies, etc. on conventional machines independently with exposure to CNC technology.	
Duration	12 Months	
course fees	Rs. 40,000/-	
Eligibility	10th Std. or Equivalent	
Course Contents	**First Semester** 1. ENGINEERING DRAWING-THEORY 2. ENGINEERING DRAWING - PRACTICAL 3. ENGINEERING METROLOGY -THEORY 4. ENGINEERING METROLOGY- PRACTICAL 5. WORKSHOP TECHNOLOGY - THEORY 6. WORKSHOP TECHNOLOGY - PRACTICAL 7. WORKSHOP CALCULATION 8. EMPLOYABILITY SKILL 9. EMPLOYABILITY SKILL – PRACTICAL 10. CNC PROGRAMMING AND CNC MACHINING - THEORY	**Second Semester** 11. CNC PROGRAMMING AND CNC MACHINING – PRACTICAL 12. QUALITY MANAGEMENT SYSTEM 13. GROUP DISCUSSION AND PERSONALITY IMPROVEMENT 14. COMPUTER AIDED DRAFTING & DESIGN(AUTOCAD) 15. COMPUTER AIDED MANUFACTURING (MASTER CAM) 16. CNC PROGRAMMING AND CNC MACHINING - ON JOB TRAINING

18

Name of The Course	**Certificate course in CNC Turning Milling (CCCTM)**	
Objectives	To produce different parts of Press Tools, Plastic Moulds, Jigs, Fixtures & Gauges, Die Casting Dies, etc. on conventional machines independently with exposure to CNC technology	
Duration	12 Months	
course fees	Rs. 40,000/-	
Eligibility	10th Std. or Equivalent	
Course Contents	**First Semester** Work Shop Technology Engineering Drawing Material Technology Engineering Metrology Work Shop Practice	**Second Semester** Work Shop Practice CNC Technology CNC Programming CNC Machining (Lathe & Milling)

19

Name of The Course	**Certificate course In Machine Tool Operation & Welding Operations (CCMT&WO)**	
Objectives	To be acquainted with Conventional Machine Operations & Basics Welding Operations like Gas Welding & Arc Welding	
Duration	12 Months	
course fees	Rs. 40,000/-	
Eligibility	10th Appeared	
Course Contents	**First Semester** Work shop Technology Engineering Drawing Material Technology Engineering Metrology Welding Technology Workshop Practice (Conventional Machining) Workshop Practice (Welding – Arc & Gas)	**Second Semester** Live Project – Conventional Machining Live Project - Arc & Gas Welding

20

Name of The Course	**Certificate course In Machine Maintenance & Welding Operations (CCMM&WO)**	
Objectives	To be acquainted with Conventional Machine Maintenance(Mechanical) & Basics Welding Operations like Gas & Arc Welding	
Duration	12 Months	
course fees	Rs. 40,000/-	
Eligibility	10th Appeared	
Course Contents	**First Semester** Workshop Technology Engineering Drawing Material Technology Engineering Metrology Basics Of Mechanical Maintenance Maintenance Practice Welding Technology Workshop Practice (Conventional Machining) Workshop Practice (Welding – Arc & Gas)	**Second Semester** Live Projects - Maint. Practice (Mechanical) Live Projects - Welding Operations (Arc & Gas)

Note:

- **New Batch for above courses (14 to 20) will be started from the first Monday of February, May, August & November of calendar year.**
- **Institute reserves right to incorporate changes in course contents, course duration, Intake Capacity, No. of Batches & Course Fees without prior notice.**
- **18% GST will be applicable on Course Fee, Registration Fee & Other Fee for Non NSQF Long Term Courses & will have to be borne by the trainee.**
- **For Non NSQF compliance courses course fee exemption in case of SC ST candidates is not applicable**