

# **ESDM DEPARTMENT**

## **NSQF COMPLIANCE COURSES**

### **Course Name: POST GRADUATE DIPLOMA IN VLSI & EMBEDDED SYSTEMS (PGDVE)**

**Duration: 2340 Hrs. / 18 Months (3 Semesters)**

**NSQF Level: 8**

#### **Course content:**

- ✓ Digital VLSI Design.
- ✓ CMOS Analog Integrated Circuit Design
- ✓ Physics of Semiconductor Device.
- ✓ Advanced Digital Signal Processing.
- ✓ Advanced Logic Synthesis.
- ✓ Artificial Neural Networks.
- ✓ Microcontrollers For Embedded System Design.
- ✓ Embedded Real Time Operating Systems.
- ✓ Advanced Operating Systems.
- ✓ Embedded Computing Systems
- ✓ Computer Networks
- ✓ Industry Internship

**Course Fee:** Rs. 35,000/- per Semester + Registration fee of Rs.1,000/- for General categories  
For SC/ST Candidates fee waiver will be provided as per Govt. of India norms, Registration Fee of Rs.1000/- to be paid.

**Eligibility:** Bachelor of Engineering / Bachelor of Technology in Electronics and communication/Electrical and Electronics/Instrumentation or its equivalent.

## **Course Name: ADVANCED EMBEDDED TECHNOLOGY (AET)**

**Duration: 780 Hrs. / 6 Months**

**NSQF Level: 6**

### **Course content:**

- ✓ PIC MICROCONTROLLER.
- ✓ EMBEDDED C / C++
- ✓ COMMUNICATION PROTOCOL AND IMPLEMENTATION.
- ✓ INTERFACING WITH MOTORS AND SENSORS.
- ✓ ARM (LPC 2148).
- ✓ CONCEPT OF RTOS.
- ✓ VLSI DESIGN WITH CPLD/ FPGA.
- ✓ PCB DESIGNING.
- ✓ PYTHON PROGRAMMING BY USING RASBERRY PI.

**Course Fee:** Rs. 40,000/- + Registration fee of Rs.1,000/- for General categories

For SC/ST Candidates fee waiver will be provided as per Govt. of India norms, Registration Fee of Rs.1000/- to be paid.

**Eligibility:** Preferably Diploma or Degree in Electrical/ Electronics/Computer / Biomedical IT/Instrumentation. B.Sc. /M.Sc. in (I.T./Electronics/Physics)

## **Course Name: ELECTRONICS EQUIPMENT TECHNICIAN (EET)**

**Duration: 1560 Hrs. / 1 Year**

**NSQF Level: 4**

### **Course content:**

- ✓ BASIC ELECTRICAL
- ✓ ELECTRONIC DEVICES & CIRCUITS
- ✓ DIGITAL ELECTRONICS
- ✓ INDUSTRIAL INSTRUMENTATION
- ✓ COMMUNICATION SYSTEM
- ✓ REPAIR, MAINTENANCE SKILLS & PRODUCTION TECHNIQUES.

**Course Fee:** Rs. 35,000/- + Registration fee of Rs.1,000/- for General categories

For SC/ST Candidates fee waiver will be provided as per Govt. of India norms, Registration Fee of Rs.1000/- to be paid.

**Eligibility:** Preferably for SSC passed or its equivalent, Minimum age 15 years.

## **3 MONTHS PROGRAMMES**

### **Course Name: ADVANCED DIGITAL DESIGN**

**Duration:** 3 MONTHS

**Course content:**

- DIGITAL ELECTRONICS.
- VERILOG
- ADVANCE LOGIC SYNTHESIS
- ANALOG ELECTRONICS
- MATLAB

**Course fee:** Rs. 18,998 /- (Including Registration fee and GST) for All categories

**Eligibility:** Preferably Diploma or Degree in Electrical/ Electronics/Computer /Biomedical /IT/Instrumentation. B.Sc. /M.Sc. in (I.T./Electronics/Physics)

### **Course Name: DEEP LEARNING (Part of AI)**

**Duration:** 3 MONTHS

**Course content:**

- MACHINE LEARNING
- NEURAL NETWORK
- TRAINING OF MULTILAYER NEURAL NETWORK
- NEURAL NETWORK AND CLASSIFICATION
- DEEP LEARNING
- CONVOLUTIONAL NEURAL NETWORK (CNN)

**Course fee:** Rs. 18,998 /- (Including Registration fee and GST) for All categories

**Eligibility:** Preferably Diploma or Degree in Electrical/ Electronics/Computer /Biomedical /IT/Instrumentation. B.Sc. /M.Sc. in (I.T./Electronics/Physics)

## **ONE MONTH PROGRAMMES**

### **Course Name: VERILOG**

**Duration:** 96 Hrs

**Course content:**

- DIGITAL ELECTRONICS.
- VERILOG

**Course fee:** Rs. 8260 /- (Including Registration fee and GST) for All categories

**Eligibility:** Preferably Diploma or Degree in Electrical/ Electronics/Computer /Biomedical /IT/Instrumentation. B.Sc. /M.Sc. in (I.T./Electronics/Physics)

### **Course Name: STD CELL DESIGN**

**Duration:** 96 Hrs

**Course content:**

- ANALOG ELECTRONICS.
- OPAMPS
- LAYOUT DESIGN

**Course fee:** Rs. 8260 /- (Including Registration fee and GST) for All categories

**Eligibility:** Preferably Diploma or Degree in Electrical/ Electronics/Computer /Biomedical /IT/Instrumentation. B.Sc. /M.Sc. in (I.T./Electronics/Physics)

### **Course Name: IC PHYSICAL DESIGN**

**Duration:** 96 Hrs

**Course content:**

- FLOORPLAN.
- PLACEMENT ROUTING
- LAYOUT VERIFICATION

**Course fee:** Rs. 8260 /- (Including Registration fee and GST) for All categories

**Eligibility:** Preferably Diploma or Degree in Electrical/ Electronics/Computer /Biomedical /IT/Instrumentation. B.Sc. /M.Sc. in (I.T./Electronics/Physics)

## **Course Name: HDL SYNTHESIS**

**Duration:** 96 Hrs

**Course content:**

- DIGITAL ELECTRONICS.
- VERILOG
- LOGIC SYNTHESIS

**Course fee:** Rs. 8260 /- (Including Registration fee and GST) for All categories

**Eligibility:** Preferably Diploma or Degree in Electrical/ Electronics/Computer /Biomedical /IT/Instrumentation. B.Sc. /M.Sc. in (I.T./Electronics/Physics)

## **Course Name: MATLAB-DSP**

**Duration:** 96 Hrs

**Course content:**

- INTRODUCTION TO MATLAB
- INTRODUCTION TO SIGNAL PROCESSING IN MATLAB.
- TECHNIQUES IN DIGITAL SIGNAL PROCESSING IN MATLAB
- INTRODUCTION TO SAMPLE- AND FRAME-BASED CONCEPTS

**Course fee:** Rs. 8260 /- (Including Registration fee and GST) for All categories

**Eligibility:** Preferably Diploma or Degree in Electrical/ Electronics/Computer /Biomedical /IT/Instrumentation. B.Sc. /M.Sc. in (I.T./Electronics/Physics)

## **Course Name: MATLAB-IMAGE PROCESSING**

**Duration:** 96 Hrs

**Course content:**

- INTRODUCTION TO MATLAB
- DISPLAYING AND EXPLORING IMAGES.
- IMAGE REGISTRATION AND FILTERS

**Course fee:** Rs. 8260 /- for (Including Registration fee and GST) for All categories

**Eligibility:** Preferably Diploma or Degree in Electrical/ Electronics/Computer /Biomedical /IT/Instrumentation. B.Sc. /M.Sc. in (I.T./Electronics/Physics)

## **Course Name: MATLAB-ARDUINO**

**Duration:** 96 Hrs

**Course content:**

- INTRODUCTION TO MATLAB
- INTRODUCTION TO C LANGUAGE
- INTERFACING WITH ARDUINO

**Course fee:** Rs. 8260 /- for (Including Registration fee and GST) for All categories

**Eligibility:** Preferably Diploma or Degree in Electrical/ Electronics/Computer /Biomedical /IT/Instrumentation. B.Sc. /M.Sc. in (I.T./Electronics/Physics)

## **Course Name: MATLAB-RASPBERRY PI**

**Duration:** 96 Hrs

**Course content:**

- INTRODUCTION TO MATLAB.
- INTRODUCTION TO RASPBERRY PI
- BASICS OF PYTHON PROGRAMMING & ADVANCED PYTHON

**Course fee:** Rs. 8260 /- for (Including Registration fee and GST) for All categories

**Eligibility:** Preferably Diploma or Degree in Electrical/ Electronics/Computer /Biomedical /IT/Instrumentation. B.Sc. /M.Sc. in (I.T./Electronics/Physics)

## **Course Name: - PYTHON PROGRAMMING**

**Duration:** 96 Hrs

**Course content:**

- Overview of Python Programming
- Python Environment, Script Mode Programming
- Python GUI Programming, Python Tools/Utilities

**Course fee:** - Rs. 8260 /- (Including of GST and Registration fee of Rs.500/-) for All categories

**Eligibility:** Preferably Diploma or Degree in Electrical/ Electronics/Computer /Biomedical /IT/Instrumentation. B.Sc. /M.Sc. in (I.T./Electronics/Physics)

## **Course Name: - EMBEDDED SYSTEMS**

**Duration:** 96 Hrs

### **Course content:**

- INTRODUCTION TO MICROCONTROLLER
- EMBEDDED C / C++
- ARM (LPC 2148) with sensor interfacing.

**Course fee:** Rs. 8260/- (Including Registration fee and GST) for General categories  
For SC/ST Candidates fee waiver will be provided as per Govt. of India norms, Registration Fee of Rs.590/- to be paid

**Eligibility:** Preferably 10TH PASS/Diploma or Degree in Electrical/ Electronics/Computer /  
Biomedical /IT/Instrumentation. B.Sc. /M.Sc. in (I.T./Electronics/Physics)

## **Course Name:- VLSI**

**Duration:** 96 Hrs

### **Course content:**

- INTRODUCTION TO VLSI
- DIGITAL ELECTRONICS
- FRONTEND AND BACKEND DESIGN IN VLSI

**Course fee:** Rs. 8260/- (Including Registration fee and GST) for General categories

For SC/ST Candidates fee waiver will be provided as per Govt. of India norms, Registration Fee of Rs.590/- to be paid

**Eligibility:** Preferably 10TH PASS/Diploma or Degree in Electrical/ Electronics/Computer  
/Biomedical/IT/Instrumentation. B.Sc. /M.Sc. in (I.T./Electronics/Physics)

## **Course Name:- MATLAB**

**Duration:** 96 Hrs

### **Course content:**

- INTRODUCTION TO MATLAB
- Introduction to Signal Processing in MATLAB.
- Techniques in Digital Signal Processing in MATLAB
- Introduction to Sample- and Frame-Based Concepts

**Course fee:-**Rs. 8260/- (Including Registration fee and GST) for General categories  
For SC/ST Candidates fee waiver will be provided as per Govt. of India norms, Registration Fee of Rs.590/-  
to be paid

**Eligibility:** Preferably Diploma or Degree in Electrical/ Electronics/Computer /  
Biomedical/IT/Instrumentation. B.Sc. /M.Sc. in (I.T./Electronics/Physics)

## **Course Name:- MICROCONTROLLER PROGRAMMING**

**Duration:** 96 Hrs

**Course content:**

- INTRODUCTION TO MICROCONTROLLER
- Introduction to PIC MICROCONTROLLER.
- MEMORY ORGANISATION.

**Course fee:-**Rs. 8260/- (Including Registration fee and GST) for General categories

For SC/ST Candidates fee waiver will be provided as per Govt. of India norms, Registration Fee of Rs.590/- to be paid

**Eligibility:** Preferably 10TH PASS/ Diploma or Degree in Electrical/ Electronics/Computer /Biomedical /IT/Instrumentation. B.Sc. /M.Sc. in (I.T./Electronics/Physics)

## **Course Name: FPGA VERIFICATION**

**Duration:** 96 Hrs

**Course content:**

- VERILOG
- FPGA ARCHITECHTURE

**Course fee:-**Rs. 8260/- (Including Registration fee and GST) for All categories

**Eligibility:** Preferably 10TH PASS/ Diploma or Degree in Electrical/ Electronics/Computer /Biomedical /IT/Instrumentation. B.Sc. /M.Sc. in (I.T./Electronics/Physics)

## **Course Name: IOT (Internet Of Things)**

**Duration:** 1 month (96 hrs.).

**Course Contents:**

- IoT overview and Hardware Platforms
- Introduction to Arduino IDE, Communication, Proto typing, sensors and actuators
- GPIO Programming in Arduino
- Experiments with Sensors Interfacing in Arduino
- Interfacing With smart Phone Application
- Experiments Using NODE MCU
- IoT Cloud Platforms.
- Mini Project Discussion

**Course Fee:** 8,260/-.

**Eligible:** Diploma, B. Tech (ECE / EEE).

## **PROJECT WORKS**

### **INDUSTRIAL TRAINING**

**Duration:** 6 Months

**Course fees:** Rs. 6,500/- (Including of GST and Registration fee) for All categories

**Eligibility:** Pursuing Diploma in Electronics/Computers/IT Engineering or its Equivalent

### **M.E/M.TECH PROJECTS/INTERNSHIP**

**Duration:** 5 Months

VLSI & EMBEDDED SYSTEMS

**Course fees:** Rs. 14,750 /- (Including Registration fee and GST) for All categories

**Eligibility:** Pursuing M.E/M.Tech in Electronics/VLSI/DSP/ES or its Equivalent

### **B.E /B.TECH PROJECTS/INTERNSHIP**

**Duration:** 1 Month

VLSI & EMBEDDED SYSTEMS

**Course fees:** Rs. 8,350 /- (Including Registration fee and GST) for All categories

**Eligibility:** Pursuing B.E/B.Tech in ECE/EIE or its Equivalent.

#### **Note:**

- All the above courses will commence on 1st and 3rd Wednesday of every month.
- Minimum 90% of attendance is mandatory to receive course certificate from the Institute.
- For admission process trainees should carry qualification certificates and Id proof (Aadhar card) at the time of admission