

DARBHANGA COLLEGE OF ENGINEERING
MECHANICAL ENGINEERING DEPARTMENT

1. DESIGN LAB

Package Name:Mech P1

Package Code:TEQIP- III/BH/dced/139

| S. No. | Details of instruments / equipment | Qty. |
|--------|---|------|
| 1 | Brinell and Rockwell hardness testing machine maximum test height - 200–500 mm (Brinell) Test Height (mm) – 200- 400 (Rockwell) | 2 |
| 2 | Universal Testing Machine Load Capacity – 200 – 500 kN | 1 |

Note: Detailed specification of the items will be attached in the invitation letter.

Package Name:Mech P2

Package Code:TEQIP- III/BH/dced/140

| S.No. | Details of instruments / equipment | Qty. |
|-------|---|------|
| 1. | Bending and Deflection Apparatus Dial indicator (Series 2: .01mm & 0.001 mm graduation) | 01 |
| 2. | Strain Measurement using strain gauge Strain range: up to 3%, nominal resistance value:120,350,700 and 1000Ω | 01 |

Note: Detailed specification of the items will be attached in the invitation letter.

Package Name:Mech P3

Package Code:TEQIP- III/BH/dced/141

| S.No. | Details of instruments / equipment | Qty. |
|-------|---|--------|
| 1. | Models of different Mechanisms(single slider crank inversion, double slider crank inversion and all types of links and pairs) Medium size ceramic Models | 02 set |

Note: Detailed specification of the items will be attached in the invitation letter.

2. PRODUCTION LAB

Package Name:Mech P4

Package Code:TEQIP- III/BH/dced/142

| S.No. | Details of instruments / equipment | Qty. |
|-------|--|------|
| 1. | Optical Microscope Magnification 50X to 2000X | 01 |
| 2. | Surface Roughness Tester Resolution 2 nm Measuring range: 20 mm | 02 |
| 3. | Micrometer And Telescopic Gauge Range 5 mm to 150mm | 06 |

Note: Detailed specification of the items will be attached in the invitation letter.

Package Name:Mech P5

Package Code:TEQIP- III/BH/dced/143

| S.No. | Details of instruments / equipment | Qty. |
|-------|---|------|
| 1. | TIG Welding Apparatus Current = 4-600 amp, Voltage 415 V , 3 phase | 01 |
| 2. | MIG Welding Apparatus Current = 4-600 amp, Voltage 415 V , 3 phase | 01 |

Note: Detailed specification of the items in all packages will be attached in the invitation letter.

Package Name:Mech P6

Package Code:TEQIP- III/BH/dced/144

| S.No. | Details of instruments / equipment | Qty. |
|-------|---|------|
| 1. | Surface Grinder Grinding wheel 200x13x32 cubic mm Power 2 HP | 01 |
| 2. | Pedastal Grinder Speed 2800 rpm, diameter 200- 400 mm | 02 |
| 3. | Dynamometer(Cutting Force Measurements) Shear force -15 to 15 KN Vertical force 0-30kN | 02 |
| 4. | Radial Drilling Machine Drill depth 350 mm, rpm 40-1800, Diameter , Power 5 KW | 01 |

Note: Detailed specification of the items will be attached in the invitation letter.

3. THERMAL LAB

Package Name: Mech P7

Package Code:TEQIP- III/BH/dced/145

| S.No. | Details of instruments / equipment | Qty. |
|-------|--|------|
| 1. | Redwood Viscometer (Density and Viscosity) Heater: SS tubular heater, Heating load: 1kW | 01 |
| 2. | Pipe Friction Apparatus 3 different type Pipe Test Section (Length & material) | 01 |

Note: Detailed specification of the items will be attached in the invitation letter.

Package Name:Mech P8

Package Code:TEQIP- III/BH/dced/146

| S.No. | Details of instruments / equipment | Qty. |
|-------|--|------|
| 1. | Composite Wall Apparatus Slab assembly of three different material arranged symmetrically on both sides of heater Heater :Nichrome Wire Heater | 01 |
| 2. | Heat Transfer in Natural Convection Diameter of the tube: 35- 50 mm Duct size : 200 mm × 200 mm × 800 mm (l ×w ×h) | 01 |
| 3. | Flash and Fire Point APPARATUS Power Source: Electric, 1.5 kW, Temp. range: upto 400° C Semi-automated type | 01 |

Note: Detailed specification of the items will be attached in the invitation letter.

Package Name:Mech P9

Package Code:TEQIP- III/BH/dced/147

| S.No. | Details of instruments / equipment | Qty. |
|-------|---|------|
| 1. | 2 Stroke Petrol Engine Model Representing internal structure and operating principles of an air cooled 2 stroke engine. All parts in aluminum alloy | 03 |
| 2. | 4 Stroke Engine Model (Petrol) Representing internal structure and operating principles of air or water cooled 4 stroke Petrol engine. All parts in aluminum alloy | 03 |

Note: Detailed specification of the items will be attached in the invitation letter.

Package Name:Mech P10

Package Code:TEQIP- III/BH/dced/148

| S.No. | Details of instruments / equipment | Qty. |
|-------|---|------|
| 1. | 2-Stroke Petrol Engine Test rig Power capacity: 3-5 HP, Loading: electrical loading or eddy current dynamo meter. Exhaust gas calorimeter for heat balance sheet | 01 |
| 2. | Two Stage Air Compressor Test rig Motor Power: 1.5-3 HP, Double stage double cylinder reciprocating type compressor with air cooled type intercooler. | 01 |

Note: Detailed specification of the items will be attached in the invitation letter.

Package Name:Mech P11

Package Code:TEQIP- III/BH/dced/149

| S.No. | Details of instruments / equipment | Qty. |
|-------|---|------|
| 1. | Vapour Absorption Test rig Refrigerant : NH ₃ + H ₂ O Temperature indicator : -50°C to +150°C Thermocouple: K type (Cr-Al) | 01 |
| 2. | Recirculating A C Trainer Air Flow : Variable speed centrifugal fan with speeds up to 680 m ³ /Hr (0.18 m ³ /s) Air cooled condenser, 1-2 HP Hermetic sealed compressor, With preheater, reheater, Air flow meter and Humidity meter. | 01 |

Note: Detailed specification of the items will be attached in the invitation letter.

Package Name:Mech P12

Package Code:TEQIP- III/BH/dced/150

| S.No. | Details of instruments / equipment | Qty. |
|-------|--|------|
| 1. | Francis Turbine Pump Capacity: 4.5- 5hp Sump tank : 400-500ltrs capacity, SS304 or MS material Eddy Current dynamometer loading, Digital RPM indicator | 01 |

Note: Detailed specification of the items will be attached in the invitation letter.

4. WORKSHOP LAB

Package Name:Mech P14

Package Code:TEQIP- III/BH/dced/152

| S.No. | Details of instruments / equipment | Qty. |
|-------|---|------|
| 1. | Solder Torch Power 60 watt weight 2 kg voltage 240 DEC | 01 |
| 2. | Brazing Torch Voltage upto 80 DEC, Current 500 amp | 01 |
| 3. | Gas Welding Apparatus Oxy acetelyne fuel , 200 amp | 01 |

Note: Detailed specification of the items will be attached in the invitation letter.

Package Name:Mech P15

Package Code:TEQIP- III/BH/dced/153

| S.No. | Details of instruments / equipment | Qty. |
|-------|--|------|
| 1. | Hand Blower Material Cast iron; weight: 4 kg | 01 |
| 2. | Muffle Furnace Maximum temperature 1200 C ; Weight 6 kg | 01 |

Note: Detailed specification of the items will be attached in the invitation letter.

Package Name:Mech P16

Package Code:TEQIP- III/BH/dced/155

| S.No. | Details of instruments / equipment | Qty. |
|-------|--|------|
| 1. | Autocollimeter Precision 1mm per 10m ; Magnification 10 X | 01 |

Note: Detailed specification of the items will be attached in the invitation letter.

Package Name:Mech P17

Package Code:TEQIP- III/BH/dced/156

| S.No. | Details of instruments / equipment | Qty. |
|-------|---|------|
| 1. | Power Hacksaw Hydraulic ,Capacity 300 mm; Length of workpiece 300 mm | 01 |

Note: Detailed specification of the items will be attached in the invitation letter.

Package Name:Mech P18

Package Code:TEQIP- III/BH/dced/157

| S.No. | Details of instruments / equipment | Qty. |
|-------|---|------|
| 1. | Injection Moulding Voltage 440V Clamping force 1000 KN | 01 |

Note: Detailed specification of the items will be attached in the invitation letter.