Code No: R32241 **R10** **Set No: 1**

III B.Tech. II Semester Supplementary Examinations, January -2014

MACHINE TOOLS & METROLOGY

(Automobile Engineering)

Time: 3 Hours **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
*****

1. Explain in detail about different Cutting Parameters with suitable sketches.

2. Discuss the different types of Tool Holding Devices in Turret Lathe with neat sketches.

3. Explain the principle of working of a SHAPING machine and discuss different operations performed by it.

4. (a) Explain the Theory of Grinding. List the Classification of Grinding Machine.
   (b) Discuss different Types of Abrasives.

5. Define the following:

   (i) Nominal size
   (ii) Tolerance Limits
   (iii)Allowance
   (iv)Fits
   (v) Deviation
   (vi)Gauges

6. Write short notes on
   (i) Go Gauge
   (ii) No Go Gauge
   (iii)Snap Gauge
   (iv)Ring Gauge

7. With the help of neat sketch explain the Principle of Tool Maker's Microscope.

8. Write short notes on any FOUR of the following
   a) Optical Flat
   b) Sine Bar
   c) Bilateral Tolerance System
   d) Types of Abrasives
   e) Jigs
   f) Collect Chucks.

*****

Code No: R32241 **R10** **Set No: 2**

III B.Tech. II Semester Supplementary Examinations, January -2014

MACHINE TOOLS & METROLOGY

(Automobile Engineering)

Time: 3 Hours **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
*****

1. List different types of Tool Materials and discuss in detail.

2. Explain the principal features of Automatic Lathes.

3. Explain the principle of working of a Slotting Machine and discuss different operations performed by it.

4. Discuss the Specifications & Selection of Grinding Wheel.

5. Write short notes on
   a. Selective Assembly
   b. Interchangeable Assembly

6. Discuss the Taylor's principle of Gauge Design.

7. With the help of neat sketch explain the Principle of Auto Collimator.

8. Write short notes on any FOUR of the following
   (a) Optical Flat
   (b) Sine Bar
   (c) Bilateral Tolerance System
   (d) Types of Abrasives
   (e) Jigs
   (f) Collect Chucks.

*****

Code No: R32241 **R10** **Set No: 3**

III B.Tech. II Semester Supplementary Examinations, January -2014

MACHINE TOOLS & METROLOGY

(Automobile Engineering)

Time: 3 Hours **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
*****

1. With a neat sketch explain the constructional features of Speed Gear box.
2. Explain the principle of working of a shaping m/c and discuss different operations performed by it.
3. Explain the principle of working of Milling machine with the help of neat Sketch.
4. Write short notes on the following:
   (a) Lapping and Honing
   (b) Broaching and Grinding.
5. Explain in detail about Hole Basis System.
6. Explain in detail about Slip Gauges and their applications & precautions need to be taken to handle the Slip Gauges.
7. With the help of neat sketch explain the Principle of NPL Interferometer.
8. Write short notes on any Four of the following
   (a) Optical Flat
   (b) Sine Bar
   (c) Bilateral Tolerance System
   (d) Types of Abrasives
   (e) Jigs
   (f) Collect Chucks.

*****

Code No: R32241 **R10** **Set No: 4**

III B.Tech. II Semester Supplementary Examinations, January -2014

MACHINE TOOLS & METROLOGY

(Automobile Engineering)

Time: 3 Hours **Max Marks: 75**

Answer any FIVE Questions

All Questions carry equal marks

*****

1. With suitable sketches explain in detail about different types of Work Holders & Tool Holders.

2. Explain the principle of working of Drilling different operations performed by it.

3. Explain the principle of working of a Universal Milling Machine and discuss different operations performed by it.

4. Write short notes on
   (a) Selective assembly
   (b) Interchangeable assembly

5. Discuss the different types of Tool Holding Devices in Turret Lathe with neat sketches.

6. Write short notes on
   (a) Go Gauge
   (b) No Go Gauge
   (c) Snap Gauge
   (d) Ring Gauge

7. With the help of neat sketch explain the Principle of Tool Maker's Microscope.

8. Write short notes on any FOUR of the following
   (a) Optical Flat
   (b) Sine Bar
   (c) Bilateral Tolerance System
   (d) Types of Abrasives
   (e) Jigs
   (f) Collect Chucks.

*****