DAY - 16 SEAT NUMBER | | | | | | |

2008	X	10	1030	V – 4	(E)

MECHANICAL MAINTENANCE
PAPER - I (A-2)

Time : 2½ Hours	3 Pages	Max. Marks : 40

Instructions : *(1) All questions are compulsory.*

(2) Illustrate your answers with neat sketches wherever necessary.

(3) Figures to the right indicate full marks.

(4) Use of drawing instruments, mathematical tables etc. is permitted.

(5) Assume suitable data if necessary.

1. Answer the following : (Any Four) 4

Fill in the blanks :

(a) On the Lathe Spindle _____ Pulley is used.

(b) The depth of cut in drilling is equal to _____ of the drill diameter.

Fill in the blanks with appropriate words :

(c) Magnetic Chucks are used to hold the _____ work.

(i) Iron

(ii) Steel

(iii) Brass

(d) Glazing is the term related to _____

(i) Cutter

(ii) Drill

(iii) Grinding Wheel

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State 'True' or 'False' and correct it, if false :

(e) In shaping, cutting takes place during return stroke of the ram.

(f) Taper Shank Drills are used with Drill Chucks.

2. Answer the following in about 8 to 10 lines : (Any Two) 6

(a) Explain the working principle of a Shaper with the help of schematic diagram.

(b) Write short note on Multiple Spindle Drilling Machine.

(c) Define Grinding Wheel. What do you mean by Grain, Grade, Structure and Bond of Grinding Wheel ?

3. Answer the following in about 8 to 10 lines : (Any Two) 6

(a) What is Breakdown Maintenance ? State the disadvantages of Breakdown Maintenance.

(b) Explain with neat sketch how to hold the work in a Shaping Machine Vice ?

(c) How is Centre Lathe specified ?

4. Answer the following in about 5 to 6 lines : (Any Three) 6

(a) List the equipments required for the Alignment Test of Lathe Machine.

(b) Draw a labelled diagram of a Tailstock.

(c) What are principal functions of Cutting Fluid ?

(d) What is 'Scraping' ? How it is done ?

(e) List the operations performed on Slotter.

5. Answer the following in about 5 to 6 lines : (Any Three) 6

(a) Why the Fuses are necessary in electrical circuit of any machine ?

(b) Note on 'Four Jaw Chuck'.

(c) Note on 'Spirit Level'.

(d) List the main parts of Milling Machine.

(e) Write short note on 'Mandrel'.

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6. Attempt **any two** of the following : **12**

(a) Explain the Back Gear Mechanism of a Lathe with a neat sketch. Where and when it is used ?

(b) Differentiate between Shaper and Planer. (at least six points)

(c) Draw a neat labelled diagram of a 'Twist Drill'. What are the advantages of using it ?

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