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

2021	X	09	1030	R – 358	(E)

MECHANICAL MAINTENANCE
PAPER - II (A-2)

Time : $2^1/_2$ Hours	2 Pages	Max. Marks : 40

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

(2) Figures to the right indicates full marks.

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

(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) In four stroke engine, working cycle is completed in _____ of crank shaft revolution.

(i) 360°

(ii) 720°

(b) _____ pump requires heavy foundation.

(i) Reciprocating

(ii) Centrifugal

State 'true' or 'false' and correct it, if false :

(c) Elbow is used to join two pipes at right angle to each other.

(d) Air vessel is used in centrifugal pump.

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Match the pairs :

(e)	Socket	(i)	To connect pipes of different diameter
(f)	Reducing Socket	(ii)	To close end of pipe
		(iii)	To connect pipe of same diameter

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

   (a) Explain the working of fuel injector with neat sketch.

   (b) What are the uses of Compressed Air ?

   (c) State advantages and disadvantages of Gear Drive.

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

   (a) What are the types of Impellers ? Explain any one of them with neat sketch.

   (b) Explain Screwjack with neat sketch. https://www.maharashtrastudy.com

   (c) Differentiate between Petrol Engine and Diesel Engine.

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

   (a) Draw neat sketches of any four pipe fittings.

   (b) Explain Belt Conveyor with a neat sketch.

   (c) What are the causes of bearing failure ?

   (d) State the functions of Foundation.

   (e) Classify Gear Drives.

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

   (a) Why cooling is necessary in I.C. Engine ?

   (b) Write a short note on Solid Bearing.

   (c) What are the causes of vibrations in the machine ?

   (d) Explain Bevel Gear Drive with a neat sketch.

   (e) What precaution should be taken while installation of Centrifugal Pump ?

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

   (a) Explain working of cone clutch with neat sketch.

   (b) Differentiate between Centrifugal Pump and Reciprocating Pump.

   (c) Explain working of Four Stroke Diesel Engine with neat sketch.

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