

17950

16117

2 Hours / 50 Marks

Seat No.

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- Instructions* –
- (1) All Questions are *Compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any SEVEN of the following:

14

- a) Enlist the different industrial application of boiler.
- b) Define Impulse Turbine and Reaction Turbine.
- c) Identify the part name. Figure No. 1.

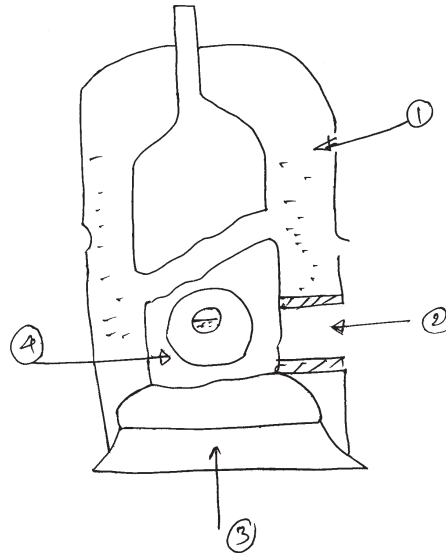


Fig. No. 1

Give names:

- | | |
|----------|----------|
| 1) | 2) |
| 3) | 4) |

P.T.O.

- d) Define:
 - (i) Indicated power,
 - (ii) Brake power
- e) Enlist different methods to find friction power.
- f) Define:
 - (i) Free air delivered,
 - (ii) Compression ratio
- g) Write different application of compressed air.
- h) Draw a neat sketch of lobe compressor and name it.
- i) Enlist types of casing in centrifugal pump.
- j) Draw a neat sketch of close impeller of centrifugal pump.

2. Attempt any FOUR of the following:

12

- a) Differentiate between water tube and fire tube boiler. (any three)
- b) Describe the boiler Act and its necessity.
- c) Classify the I.C. engine on the following basis (any three)
 - (i) No. of strokes,
 - (ii) Thermodynamic cycle
 - (iii) Fuel supply system,
 - (iv) Cooling system.
- d) Explain with neat sketch screw compressor.
- e) Write any three faults and their causes and remedial action of air compressor.
- f) Draw a neat sketch of centrifugal pump and name it.

3. Attempt any THREE of the following: 12

- a) A gas engine has a piston diameter of 151 mm and stroke 410 mm. No. of revolution 120 rpm. The mean effective pressure is 5.5 bar. Find mechanical efficiency if B.P. is 5 kW.
- b) Explain working and construction of steam turbine.
- c) Classify the boiler on the following basis:
 - (i) According to tube
 - (ii) According to pressure of steam
 - (iii) According to position of boiler.
- d) Differentiate between reciprocating and rotary air compressor.

4. Attempt any FOUR of the following: 12

- a) Explain steam engine with neat sketch.
 - b) Differentiate between impulse and reaction turbine.
 - c) What is the necessity of starting motor for I.C. engine? Name type of motor for I.C. Engine.
 - d) Explain the working and construction of reciprocating air compressor.
 - e) Classify the pumps. (any three)
 - f) Draw a neat sketch of rotary gear pump and name it.
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