

ಒಟ್ಟು ಪ್ರಶ್ನೆಗಳ ಸಂಖ್ಯೆ : 7]

[ಒಟ್ಟು ಮುದ್ರಿತ ಪುಟಗಳ ಸಂಖ್ಯೆ : 3

Total No. of Questions : 7]

[Total No. of Printed Pages : 3

ಸಂಕೇತ ಸಂಖ್ಯೆ : **J.T.S. – I**

Code No. : **J.T.S. – I**

ವಿಷಯ : ಎಲಿಮೆಂಟ್ಸ್ ಆಫ್ ಇಂಜಿನಿಯರಿಂಗ್ – I

Subject : **ELEMENTS OF ENGINEERING – I**

ದಿನಾಂಕ : 08 - 04 - 2008

Date : 08 - 04 - 2008

ಸಮಯ : ಬೆಳಿಗ್ಗೆ 10-30 ರಿಂದ ಮಧ್ಯಾಹ್ನ 1-00 ರವರೆಗೆ]

[ಪರಮಾವಧಿ ಅಂಕಗಳು : 50

Time : 10-30 A.M. to 1-00 P.M.]

[Max. Marks : 50

Note : Answer questions from Sections **A** & **B** as per the instructions given under them.

SECTION – A

Instruction : Answer Question **No. I** and any *two* full questions of the remaining.

I. Fill in the blanks with the appropriate word(s) choosing from the ones given in the brackets : 10 × 1 = 10

a) Copper is a good material.

(*insulator, semiconductor, conductor*)

b) The core of a transformer is made of

(*silicon steel, cast iron, cast steel*)

c) Commutator segments are made of

(*silver, copper, aluminium*)

[Turn over

- d) Direction of rotation of a dc motor is given by
 (*Fleming's left hand rule, Cork screw rule, Fleming's right hand rule*)
- e) lamp is used in the film projector.
 (*Arc, Incandescent, Mercury vapour*)
- f) Babcock and Wilcox boiler is a boiler.
 (*fire-tube, water-tube, water-tube and fire-tube*)
- g) Centrifugal pump works on the principle of force.
 (*centrifugal, reciprocating, kinetic*)
- h) is used to save the boiler against over heating of boiler.
 (*Fusible plug, Safety valve, Blow off valve*)
- i) Spark plug is used in engines.
 (*diesel, diesel and petrol, petrol*)
- j) pump can handle dirty water.
 (*Reciprocating, Centrifugal, Tube well*)
- II. a) Give any two examples for water-tube boiler and fire-tube boiler. 3
- b) Draw a neat sketch of simple vertical boiler and label its important parts. 5
- c) List the important boiler accessories. 2
- III. a) Define heat engine. 2
- b) List the important parts of steam engine. 2
- c) Draw a neat sketch of four-stroke diesel engine and label its important parts. 6
- IV. a) What is a pump ? How are they classified ? 3
- b) Draw a neat sketch of Pelton wheel and explain briefly. 5
- c) Mention any three differences between reciprocating pump and centrifugal pump. 2

SECTION – B

Instruction : Answer any two full questions of the following.

- V. a) Explain with a neat sketch, core-type transformer. 4
b) Mention any three applications of transformer. 3
c) What do you mean by a conductor ? Give two examples. 3
- VI. a) State Fleming's right hand rule. 2
b) How are the dc generators classified ? 3
c) Draw a neat diagram of incandescent lamp and explain briefly. 5
- VII. a) Name the different systems of wiring used for domestic purposes. 4
b) Explain the construction and operation of a modern electric cooking range. 4
c) Mention the uses of the following measuring instruments : 2
i) Galvanometer
ii) Voltmeter
iii) Energymeter
iv) Ammeter.
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