Sl. No. : NNN

ಒಟ್ಟು ಪ್ರಶ್ನೆಗಳ ಸಂಖ್ಯೆ : 7]

Total No. of Questions : 7]

CCE RF

[ಒಟ್ಟು ಮುದ್ರಿತ ಪುಟಗಳ ಸಂಖ್ಯೆ : 4

[Total No. of Printed Pages : 4

ಸಂಕೇತ ಸಂಖ್ಯೆ : 71

Code No. : 71

ಇಲ್ಲಿ ಕತ್ತರಿಸಿ

ವಿಷಯ : ಎಲಿಮೆಂಟ್ಸ್ ಆಫ್ ಇಂಜಿನಿಯರಿಂಗ್

Subject : ELEMENTS OF ENGINEERING

(ಹೊಸ ಪಠ್ಯಕ್ರಮ / New Syllabus)

(ಶಾಲಾ ಅಭ್ಯರ್ಥಿ / Regular Fresh)

ದಿನಾಂಕ : 01. 04. 2017] [Date : 01. 04. 2017

ಸಮಯ : ಬೆಳಿಗ್ಗೆ 9-30 ರಿಂದ ಮಧ್ಯಾಹ–12-15 ರವರೆಗೆ] [Time : 9-30 A.M. to 12-15 P.M.

ಪರಮಾವಧಿ ಅಂಕಗಳು : 50] [Max. Marks : 50

TEAR HERE TO OPEN THE QUESTION PAPER
ಪ್ರಶ್ನೆ–ಪತ್ರಿಕೆಯನ್ನು ತೆರೆಯಲು ಇಲ್ಲಿ ಕತ್ತರಿಸಿ

General Instructions to the Candidate :

1. This Question Paper consists of 7 objective and subjective types of questions.
2. This question paper has been sealed by reverse jacket. You have to cut on the right side to open the paper at the time of commencement of the examination. Check whether all the pages of the question paper are intact.
3. Follow the instructions given against both the objective and subjective types of questions.
4. Figures in the right hand margin indicate maximum marks.
5. The maximum time to answer the paper is given at the top of the question paper. It includes 15 minutes for reading the question paper.

Tear here

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

SECTION – A

Instruction : Answer Question **No. 1** and any *two* full questions of the remaining.

1. Fill in the blanks with the appropriate term selecting from the choices given in the brackets : 10 × 1 = 10

a) Charcoal is an example of ..... fuel.

(*liquid, solid, gaseous*)

b) Compression ratio of diesel engine may have a range of ..... .

(*8 to 10, 10 to 15, 16 to 20*)

c) Pelton wheel is the most commonly used turbine for ..... head and small quantity of water.

(*high, low, medium*)

d) The function of the ..... is to inject the high pressure diesel into the engine cylinder in the atomised form.

(*spark plug, carburettor, injector*)

e) Sprocket wheel is used in ..... drive.

(*belt, chain, gear*)

f) Induced e.m.f. that always opposes the applied voltage is known as ..... .

(*dynamically induced e.m.f., self induced e.m.f., mutually induced e.m.f.*)

g) The value of form factor of an *a.c.* quantity is ..... .

(*1·11, 1·414, 0·707*)

h) The direction of induced e.m.f. can be found by ..... .

(*Ampere rule, Fleming's left hand rule, Fleming's right hand rule*)

i) An armature core of a *d.c.* machine is laminated to reduce ..... .

(*resistance, reluctance, conductance*)

j) The output rating of a transformer is ..... .

(K.V., K.W., K.V.A.)

2. a) What are boiler accessories ? 2

   b) Write down the essential boiler mountings. 2

   c) Sketch and describe the Cochran boiler. 6

3. a) How are the internal combustion engines classified ? 2

   b) Differentiate between petrol engine and diesel engine. 2

   c) With neat sketches explain the principle and working of four-stroke diesel engine. 6

4. a) Define a turbine. 2

   b) Mention the uses of pumps. 2

   c) Describe with a line diagram the working of a reciprocating pump. 6

SECTION – B

Instruction : Answer any *two* full questions of the following.

5. a) Define dynamically induced e.m.f. 2

   b) Draw a neat circuit diagram of shunt generator and explain briefly. 3

   c) On what principle does the *d.c.* motor work ? Name the types of *d.c.* motors. 5

6. a) Write the symbolic diagrams of ammeter and wattmeter. 2

   b) How the lamps are classified ? 3

   c) With a neat circuit diagram explain the working of electric bread toaster. 5

7. a) Define stator and rotor. 2

   b) Draw a neat sketch of alternator and label the parts. 4

   c) Write short notes on any *two* of the following : 4

      i) Conduit wiring system

      ii) Step down transformer

      iii) Counter e.m.f.