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FOR KARNATAKA CLASS 10 PREPARATION

Karnataka SSLC Model Question Paper 2027 for Elements Of Mechanical Engineering IV (Paper 2)

EXAM	YEAR	TYPE
Karnataka Class 10	2027	Sample Paper

52

ಕರ್ನಾಟಕ ಶಾಲಾ ಪರೀಕ್ಷೆ ಮತ್ತು ಮೌಲ್ಯನಿರ್ಣಯ ಮಂಡಲಿ.

6 ನೇ ಅಡ್ಡ ರಸ್ತೆ, ಮಲ್ಲೇಶ್ವರಂ, ಬೆಂಗಳೂರು – 560003

KARNATAKA SCHOOL EXAMINATION AND ASSESSMENT BOARD.

6 th Cross, Malleshwaram Bengaluru-560003

2026-27 ರ ಎಸ್, ಎಸ್, ಎಲ್, ಸಿ. ಮಾದರಿ ಪ್ರಶ್ನೆಪತ್ರಿಕೆ –2

S S L C MODEL QUESTION PAPER-2:2026-27

ವಿಷಯ : ಎಲಿಮೆಂಟ್ಸ್ ಆಫ್ ಮೆಕ್ಯಾನಿಕಲ್ ಇಂಜಿನಿಯರಿಂಗ್ -IV

Subject: ELEMENTS OF MECHANICAL ENGINEERING –IV

ಸಂಕೇತ ಸಂಖ್ಯೆ: 52 **Subject Code No: 52**

ಸಮಯ : 3 ಗಂಟೆ 15 ನಿಮಿಷಗಳು] [TIME :3 Hours 15 Minutes

ಗರಿಷ್ಠ ಅಂಕ : 80] [Max.Marks:80

General instruction to the candidate:

1. This question paper consists of 17 questions.

2. Follow the instructions given against the questions.

3. Figures in the right-hand margin indicate maximum marks for the questions.

4. 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.

[Turn over

Note:

(i) Answer all the questions.

(ii) Engineering drawing questions should be solved in drawing sheet only.

(iii) All dimensions are in "mm".

I. Four alternatives are given for each of the following questions/incomplete statements. Select the most appropriate alternative and write it in the answer book along with its alphabet: (1x10=10m)

1. Compression ratio of diesel engine is

(A) 8:1 to 10:1 (B) 15:1 to 10:1

(C) 16:1 to 20:1 (D) 10:1 to 15:1

2. The inner diameter of engine cylinder is called is:

(A) Bore (B) Stroke

(C) Clearance (D) Pitch

3. Air filter is used in:

(A) Petrol engine (B) Diesel engine

(C) Electric Engine (D) Steam engine

4. The operation of producing flat surface on drilled hole is called:

(A) Spot facing (B) Drilling

(C) Tapping (D) Boring

5. Embossing a diamond shaped pattern on the surface of work piece is called:

(A) Taper turning (B) Plain turning

(C) Knurling (D) Grooving

6. The dimension lines are:

(A) Thin line (B) Thick line

(C) Dashed line (D) Zig-Zag line

7. The projection on HP is:

(A) Front view (B) Left side view

(C) Right side view (D) Top view

8. If the top view of a plane is rhombus, the object may be:

(A) Square (B) Parallelogram

(C) Octagon (D) Rectangle

9. A solid having minimum number of faces is:

(A) Square Pyramid (B) Triangular prism

(C) Cube (D) Tetrahedron

10. The hidden part in a drawing is shown as:

(A) Thick line (B) Thin line

(C) Dashed line (D) Zig-zag line

II. Answer the following questions.

11. (a) Define the following.

(i) TDC

(ii) BDC **---2**

(b) Name the types of I. C. engine on the following bases.

(i) Types of fuel used

(ii) Number of strokes

(iii) Method of cooling **---3**

(c) Draw the neat sketch of I. C. engine and label the parts. **---5**

12. (a) Write any two applications of I. C. Engine. **---2**

(b) Classify the different types of drilling machine. **---3**

(c) Explain with a neat diagram a two-stroke petrol I. C. Engine. **---5**

13. (a) List the different types of operations performed on lathe. **---2**

(b) Explain Knurling operation carried out on the lathe machine. **---3**

(c) With neat sketch explain lathe specifications. **---5**

14. (a) List different operations performed on drilling machine and explain counter boring operation. **---5**

(b) A pentagonal plane lamina of side 30mm is resting on HP with one of its corners touching it such that the plane surface makes an angle of 60° with HP. Draw the top and front views of the plane. **---5**

15. (a) A square lamina ABCD of 30mm side rests on the corner C such that the diagonal AC appears as at 30° to HP. Draw its front and top views. **---5**

(b) Draw the projection of a cylinder of 50mm diameter of base and height 60mm resting with its base on HP. (5 m)

16. A hexagonal pyramid of 30mm edge of base and height 65mm rests with one of its corners of the base on HP such that the base is inclined at 30° to it and the axis parallel to VP. Draw its projections. **---10**

17. The pictorial view of an object is shown in figure No.1. Draw the following orthographic Views and make the dimensions.

1. Front view: looking in the direction of arrow-X
2. Top view: looking in the direction of arrow-Y
3. Side view: looking in the direction of arrow-Z

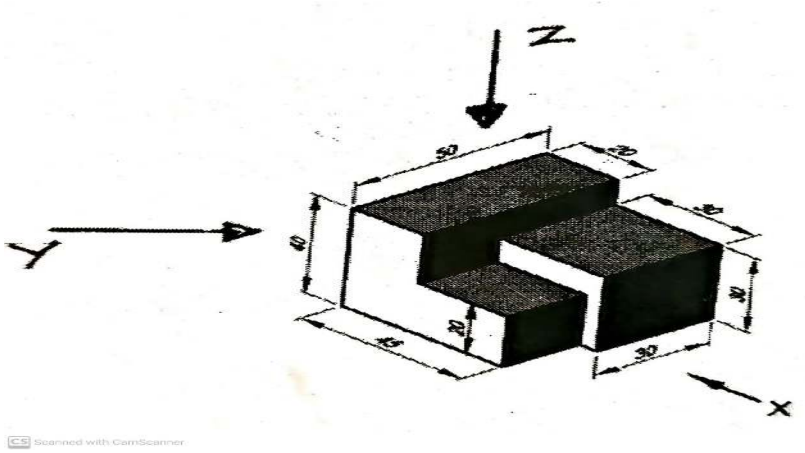


Figure No. 1

OR

Draw the isometric views of an object from the given orthographic views in Figure No. 2. **---10**

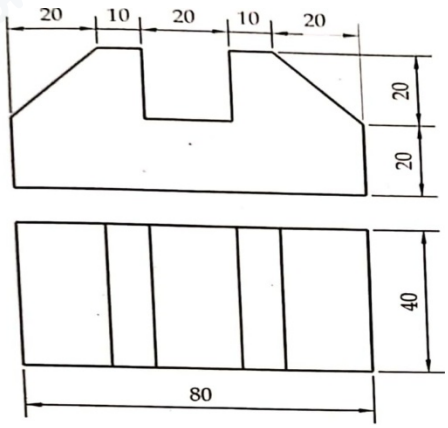


Figure No. 2