## ANSWER KEY - CLASS 12 - EG - P-1 - SET 1-2023-24

## SECTION - A

| Q.NO | ANSWERS |
| :---: | :---: |
| 1 | b) Axonometric projection |
| 2 | a) Holes or slots |
| 3 | a) Square thread |
| 4 | a) Square |
| 5 | b) The top solid is cube and the bottom solid is triangular prism |
| 6 | c) The axis is perpendicular to H.P. and parallel to V.P. |
| 7 | b) The isometric projection of a sphere is a circle whose diameter is equal to the true diameter of the sphere. |
| 8 | b) 1-iii, 2-iv, 3-i, 4-ii |


|  |  |
| :--- | :--- |
| $\mathbf{9}$ | b) (iii) and (iv) only |
| $\mathbf{1 0}$ | b) The size of common axis is less than true 90mm. |
| $\mathbf{1 1}$ | (d) Gun metal |
| $\mathbf{1 2}$ | a) Nut end |
| $\mathbf{1 3}$ | b) 32 |
| $\mathbf{1 5}$ | a) Rivet heads |
| $\mathbf{1 4}$ | b) C, A, D, E, B |


|  |  |
| :--- | :--- |
| $\mathbf{1 9}$ | c) Grub screw |
| $\mathbf{2 0}$ | c) 0.4 d |

## SECTION B

$$
1 \times 5=5
$$

21.a) Construct an isometric scale of 80 mm .


$$
1 \times 10=10
$$

21 b). Draw the isometric projection of a pentagonal prism (base edge 25 mm , axial length 55 mm ) resting on its face with its axis parallel to H.P. and V.P. both. Indicate the direction of viewing. Give all the dimensions.

$1 \times 8=8$
22. Draw to scale 1:1, the standard profile of Metric thread (Internal) with enlarged pitch as 50 mm . Give standard dimensions.


| $\mathbf{P}$ | $\mathbf{D}=\mathbf{0 . 8 6 P}$ | $\mathbf{d}=\mathbf{0 . 5 4 P}$ | $\mathrm{D} / 8$ | $\mathrm{D} / 4$ |
| :---: | :---: | :---: | :---: | :---: |
| 50 | 43 | 27 | 6.3 | 12.5 |

## METRIC SCREW THREAD PROFILE

## OR

Draw to scale 1:1, the front view, top view and side view of a hexagonal nut of size M30, keeping the axis perpendicular to H.P. Give standard dimensions.




| d | 30 |
| :---: | :---: |
| 0.8 d | 24 |
| $1.5 \mathrm{~d}+3$ | 48 |

LEFT HAND SIDE VIEW

NOTE : The size of chamfer circle can be taken 1.5 d or $1.5 \mathrm{~d}+3$ in square / hex. head bolt and nut.

## HEXAGONAL NUT

23. 

$\mathbf{1 \times 2 7}=\mathbf{2 7}$


FRONT VIEW LOWER HALF IN SECTION


OR


