13/B/C/S-2/4/E

PAPER-II
DRAUGHTSMAN (CIVIL)
(WORKSHOP CALCULATION & SCIENCE & EMPLOYABILITY SKILLS)
SEMESTER – II

A

TOTAL TIME : 3 Hrs.   **TOTAL MARKS: 150**

Note:- This paper contains two parts – Part A & Part B.
        Attempt all the questions.
        All questions carry equal marks.

PART-A WORKSHOP CALCULATION & SCIENCE   (75)

I. Choose the correct answers-

1. The angle which is more than 180^0 and less than 360^0 is called-
   a) Reflex angle   b) Acute angle   c) Obtuse angle   d) Straight angle

2. If the two sides of a parallelogram are 12 cm and 8 cm and one of its diagonal is 10 cm long. Find the area of that parallelogram.
   a) 39.69 sq.mm   b) 39.69 sq.cm   c) 40 sq. cm   d) 79.38 sq.cm.

3. The area of a rectangular site is 96 m^2. If its length is greater than its breadth by 4 metres. The length and breadth of the said site are-
   a) 10 metres, 6 metres   b) 12 m and 8 m   c) 8 m and 12 m   d) 4 m and 8 m

4. If the sum of two angles is 1800;the angles are known as _____ angles.
   a) Reflex   b) Complimentary   c) Supplementary   d) Associate

5. A wire is in the form of a circle of radius 42 cm. Determine the side of square into which it can be bent.
   a) 66 metres   b) 66 cm   c) 76 cm   d) 6.60 cm

6. Find the area of the shaded portion in the following figure.
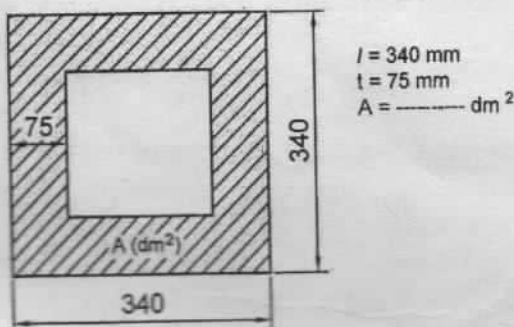
l = 340 mm
t = 75 mm
A = ---------- dm^2

Given L = 340 mm, T = 75 mm. Give the answer in square decimeters.
   a) 795   b) 79500   c) 7.95   d) 7950
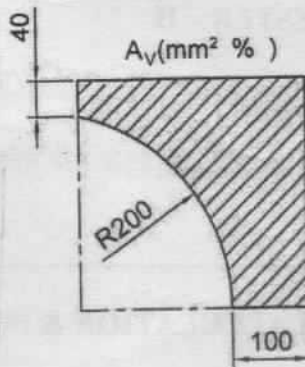
7. Find the area of the shaded portion of the following figure. Find also % of this area with respect whole rectangle area.
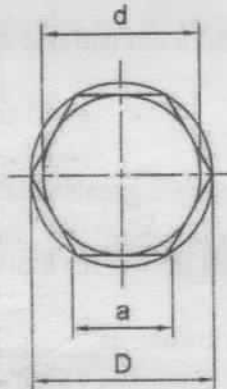

A$_V$(Area of shaded part)

= _____

A$_V$ = % of (Area of Rectangle) A$_1$

a) 40571.4 Sq. mm 65.349%
c) 40571.4 sq. mm & 56.349%

b) 40571.4 sq. cm & 56.349%
c) 40571.4 sq.m & 65.349%

8. In the sketch shown below, side of the hexagon, a=30 mm. Find the values of 'd' and 'D'.

a) 51.96 mm and 60 mm
c) 41.96 mm and 60 mm

b) 51.96 cm and 60 cm
d) 51.96 dm and 60 dm

9. Find out the area of a triangle having sides 12 cm, 16 cm and 20 cm respectively:

a) 196 sq.cm.   b) 96 sq.cm.   c) 256 sq.cm.   d) 256 sq.dm

10. Find the value of cos 60^0 + 1 /cos 60^0 -1

a) -2   b) -3   c) 3   d) 2

11. If cosθ = x, x > 0, then find the value of than θ = ? (among the following)

a) $\dfrac{x}{\sqrt{1+x2}}$ a) $\dfrac{x}{\sqrt{1-x2}}$ a) $\dfrac{\sqrt{1+x2}}{x}$ d) $\dfrac{\sqrt{1-x2}}{x}$

12. 1-cos 2A/ sin2A _____

a) Sin 2A   b) cos 2A   c) tan A   d) tan 2A

13. With the help of trigonometric tables find the area of a triangle whose base is 8 cm and each of the other sides makes an angle of 70^0 with the base.

a) 96.43 sq.cm.   b) 34.96 sq.cm.   c) 43.96 sq.mm.   d) 43.96 sq.cm

Contd..3/-

2/8

14. A divider having legs of equal lengths of 10 cm is opened so that the distance between its points is 4.5 cm. The angle between its legs is equal to

a) 52^0 b) 26^0 c) 13^0 d) 45^0

15. Find the value of 'L' from the following figure.
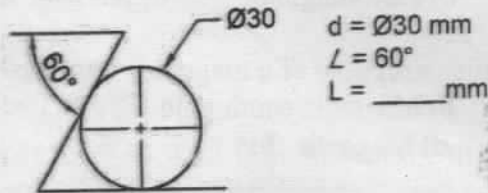
a) 30.9815 mm   b) 45.45 mm   c) 44.9815 mm   d) 40.9815 mm

16. Which of these is not attracted by a magnet?

a) Iron   b) Cobalt   c) Alluminium   d) Nickel

17. The sure test of magnetism (to check whether it is a magnet or not) is-

a) Attraction only   b) Repulsion only
c) Either attraction or repulsion   d) Neither attraction nor repulsion

18. A magnet is broken into three pieces. Which of the following statement is true?

a) Only the two end pieces will be magnets
b) Only the middle piece will be a magnet
c) All the three pieces will be magnets
d) None of the piece will be a magnet

19. The pieces of magnetite used as direction indicators were called-

a) Pole indicators   b) Artificial magnets
c) Lodestones   d) Magnetic needle

20. A ladder 15 metres long is placed leaning against a wall with its lower end 5 metres away from the base of the wall. Find the height of the point, where the top of the ladder touches the wall.

a) 14.14 metres   b) 1.414 metres   c) 12.12 metres   d) 14 metres

21. In a triangle ABC b = 15 cm; and angle B = 32^0 15' then side a = ? Angle A = ?

a) a = 14 cm; A = 78^0 b) a = 28 cm; A = 84^0 58'
c) a = 25 cm, A = 84^0 58'   d) a = 20 cm; A = 88^0 15'

3/8

22. Find the surface area of a sphere of diameter 56 cm.

    a) 8956 sq. cm   b) 9856 sq.cm   c) 9856 sq.mm   d) 8956 sq.mm.

23. The materials used for making stronger magnets are-

    a) Diamagnetic   b) Paramagnetic   c) Ferromagnetic   d) All Iron alloys

24. The lines of magnetic force that emerge from the north pole of a magnet is know as-

    a) Magnetic strength   b) Magnetic south pole

    c) Magnetic flux density   d) Magnetic flux

25. A man pulls a car of mass 150 kg and produces an acceleration of 4m/sec2. Find the force exerted by the man.

    a) 600 kg-m   b) 600 newtons   c) 600 dynes   d) 600 poundals

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