

PAPER – II
(WORKSHOP CALCULATION & SCIENCE AND ENGINEERING DRAWING)
FOR THE TRADES WITH MINIMUM QUALIFICATION 8TH PASS
SEMESTER – I

**EXCAVATOR OPERATOR, SANITARY HARDWARE FITTER, CARPENTER, FOUNDRYMAN,
 MASON (BUILDING CONSTRUCTOR), MECHANIC TRACTOR, PLUMBER,
 SHEET METAL WORKER, WELDER (GAS & ELECTRIC),
 PAINTER GENERAL, WIREMAN, WELDER (GAW & GTAW), WELDER PIPE, WELDER
 STRUCTURAL, WELDER (WELDING & INSPECTION), WELDER (FABRICATION & FITTING)**

TIME: 3 HRS.**MARKS: 150**

Note: This paper contains two parts – Part A & Part B.

Attempt all the questions. All questions carry equal marks.

This paper carries negative marking. 25 % marks will be deducted for each wrong answer.

PART – A (WORKSHOP CALCULATION & SCIENCE) (MARKS: 75)

Choose the correct answer:-

- 0.02 Kg = _____.
 a) 200 grams b) 20 grams c) 2 grams d) None of these
- One kWh is equal to _____.
 a) 4.2 mega joules b) 3.6 mega joules c) 0.42 kilo joules d) 33,000 joules
- The number $\frac{1}{3} \times \frac{1}{2} \div \frac{1}{3}$ is equal to _____.
 a) 1 b) $\frac{1}{2}$ c) 2 d) $\frac{1}{4}$
- Sum of 2123 + 2414 is equal to _____.
 a) 4735 b) 4468 c) 4537 d) 4564
- 1 Kilometer is equal to _____.
 a) 0.622 miles b) 0.633 miles c) 0.602 miles d) None of these
- Multiply $\frac{6}{13}$ by the reciprocal of $\frac{9}{16}$ is equal to _____.
 a) $\frac{96}{234}$ b) $\frac{27}{52}$ c) $\frac{32}{39}$ d) $\frac{54}{104}$
- One gallon is equal to _____ litres.
 a) 4.1 litres b) 4.24 litres c) 4.50 litres d) 4.54 litres

8. A watch keeps exact time, but it has only Hour hand. When the hour hand is $\frac{2}{5}$ of the distance between the 4 and 5, the correct time is -
a) 4.10 b) 4.20 c) 4.22 d) 4.24
9. Reciprocal of -5 is -
a) $-\frac{1}{5}$ b) $\frac{1}{5}$ c) +5 d) 1
10. If a man have to sell a watch for Rs. 720, he would lose 25%. What must he sell it for, to gain 25%?
a) Rs.1,200 b) Rs. 960 c) Rs.1,000 d) Rs.900
11. Sum of 2.012 + 201.2 are -
a) 203.32 b) 203.032 c) 201.32 d) 203.212
12. Choose the correct of the multiplication 0.1×0.001 is equal to -
a) 0.1 b) 0.01 c) 0.001 d) 0.0001
13. A mile if represented in nearest km is equivalent to -
a) 1.1 km b) 1.25 km c) 1.4 km d) 1.6 km
14. Sum of number $\frac{7}{12}$ and $-\frac{5}{16}$ is equal to -
a) $-\frac{7}{48}$ b) $-\frac{11}{30}$ c) $\frac{13}{48}$ d) $\frac{1}{3}$
15. Sum of $(7 + 3) \times 4$ are -
a) $7 \times 4 + 3 \times 4$ b) $7 + (3 \times 4)$ c) $7 + (3 + 4)$ d) $(7 + 3) + 4$
16. Ramulu watched a movie for $2\frac{1}{4}$ hour, played kabadi for $1\frac{1}{2}$ hour, and washed the clothes for $\frac{3}{4}$ hour. The total time spent is -
a) $2\frac{1}{2}$ hour b) $3\frac{3}{4}$ hours c) $4\frac{1}{2}$ hours d) 5 hours
17. The price of a car decrease by 25% over an 8-month period. To find the amount of the decrease in a car originally priced at R238 000, multiply R238 000 by _____.
a) $\frac{1}{20}$ b) $\frac{1}{5}$ c) $\frac{1}{4}$ d) $\frac{1}{10}$
18. Which group of fractions is in descending order?
a) $\frac{2}{3}$ $\frac{3}{4}$ $\frac{5}{8}$ $\frac{8}{9}$
b) $\frac{5}{8}$ $\frac{2}{3}$ $\frac{3}{4}$ $\frac{5}{6}$
c) $\frac{2}{3}$ $\frac{3}{4}$ $\frac{5}{6}$ $\frac{5}{8}$
d) $\frac{5}{6}$ $\frac{3}{4}$ $\frac{2}{3}$ $\frac{7}{8}$
19. What number should be subtracted from $-\frac{3}{5}$ to get - 2?
a) $-\frac{7}{5}$ b) $\frac{13}{5}$ c) $\frac{7}{5}$ d) $-\frac{13}{5}$

20. The number of boys and girls in a class are in the ratio of 7:5. The total number of boys and girls are 96 then the number of girl are -
a) 56 b) 8 c) 40 d) 7
21. The quantity of matter of a substance contains is termed as -
a) Weight b) Density c) Relative density d) Mass
22. The sum of largest and smallest number $\frac{2}{10}$, $\frac{9}{20}$, $\frac{12}{25}$, $\frac{27}{50}$, $\frac{49}{100}$ is -
a) 0.34 b) 0.74 c) 0.78 d) 0.79
23. If the weight of certain quantity of mercury is 136 grams, and its density is 1.36 gm/cu cm, then its volume is -
a) 10 cu cm b) 136 cu cm c) 1.36 cu cm d) 1 cu cm
24. Simplify $(-4) / 5 \times \frac{3}{7} \times \frac{15}{16} \times (-14)/9$ is equal to -
a) $\frac{1}{2}$ b) $\frac{14}{35}$ c) $\frac{45}{80}$ d) $-\frac{1}{2}$
25. Brass is an alloy of -
a) Copper & tin b) Lead & tin c) Copper & zinc d) Copper & silver

Contd.....4/-

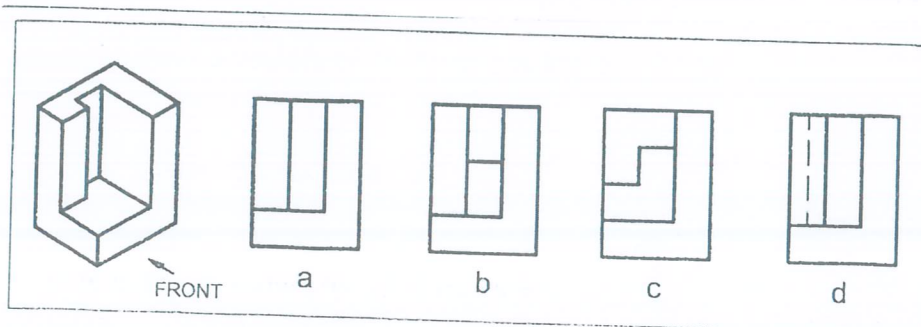
PART – B (ENGINEERING DRAWING)

(MARKS: 75)

Choose the correct answer:-

- The dimension figure for diameter of a circle should be -
a) Preceded by the symbol “Φ”
b) Suffixed by the symbol “Φ”
c) Preceded by the symbol “D”
d) Suffixed by the symbol “D”
- Extension arm used with engineering compass is to facilitate -
a) To increase the gripping arm
b) To draw a larger diameter circles
c) To adjust distance between the legs
d) To increase the accuracy
- To draw a smooth curve of any nature, the draughtsman will select the following instrument -
a) Mini drafter
b) French curve
c) Eraser shield
d) Template
- A line intersects a circle at two points and does not pass through the centre, the line segment inside the circle is referred as -
a) Quadrant
b) Sequent
c) Chord
d) Radial line
- Hidden lines are represented by ____ lines.
a) Thin lines
b) Thick lines
c) Dotted lines
d) Any of these
- In lettering while drawing lower case letters, the text body height is about ____ of the capital letters.
a) Same height
b) $\frac{3}{4}$ the height
c) $\frac{2}{3}$ rd height
d) $\frac{1}{2}$ height
- To “step-off a series of equal distances” on the drawing the following instrument is used.
a) Compass
b) Set square
c) Divider
d) Scale
- The two recommended system of placing the dimensions are -
a) Unidirectional & aligned system
b) Upright & inclined systems
c) Linear & oblique systems
d) Linear & inclined systems
- Parallel lines can be drawn with the help of -
a) Mini drafter
b) French curve
c) Template
d) Eraser shield
- Which of the following is preferred containing statement? “All dimensions are in mm unless otherwise specified”?
a) Frames and borders
b) Title block
c) Items list
d) Revision table
- In multi view projections, the XY line is also known as -
a) Horizontal line
b) Horizontal trace
c) Reference line
d) All of these

12. During operation of drafter, the two arms of the drafter remains at -
a) 45° b) 90° c) 180° d) 270°
13. Visible lines and edges are drawn as -
a) Thin lines b) Thick lines c) Dotted lines d) Any of these
14. To draw a perpendicular from a given point P on line XY name the point where the needle of the compasses should be placed first -
a) P b) Any convenient point along XY
c) X or Y d) A point near the mid point of PX and PY
15. Numbers of orientation marks generally contained by a drawing sheet -
a) One b) Two c) Three d) Four
16. The recommended symbol for indicating the angle of projection shows two views of the frustum of a -
a) Triangular pyramid b) Cone c) Square pyramid d) Any of these
17. When a circle passes through three given points, its centre lies at the intersection of -
a) The perpendicular bisector of the longest line and the perpendicular line drawn from the end of the shortest line.
b) The perpendicular bisector of the shortest line and the perpendicular line drawn from the end of the longest line.
c) The perpendicular bisectors of the lines that connect the points.
d) The tangents drawn through each point.
18. The size of the letters kept on drawing -
a) Constant b) Varied as per size of the drawing
c) Not known d) None of these
19. Projection of an object shown by three views is known as -
a) Perspective b) Isometric c) Oblique d) Orthographic
20. Select the correct Front view from the given orthographic views -



21. Which of the following is size of A3 drawing sheet?
a) 594 x 841 mm b) 420 x 594 mm c) 297 mm x 420 mm d) 210 x 297 mm
22. Which one of the following grades of pencils have hardest lead?
a) HB b) H c) B d) F
23. Which one of the following is not served by the divider?
a) Divide lines or curves into a number of equal parts
b) Transfer measurement from one part of the drawing to another
c) Make full size, reduced size or enlarged size
d) Step off a series of equal distances on the drawing
24. A typical layout of a drawing sheet Do Not contain -
a) Centering mark b) Orientation mark
c) Trimming mark d) Identification
25. Chord AB is parallel to Chord CD in a circle, which of the following statement is true -
a) Arc length AC = Arc length BD b) Arc length AB = Arc length CD
c) Length AB = length CD d) Arc length ABD = Arc length CDB
