PAPER – II
(WORKSHOP CALCULATION & SCIENCE AND ENGINEERING DRAWING)
8TH PASSED ENTRY QUALIFICATION TRADES
(SIX MONTH/ ONE YEAR DURATION)
SEMESTER – I
(EVENING SESSION)

EXCAVATOR OPERATOR, SANITARY HARDWARE FITTER, CARPENTER, FOUNDRYMAN, MASON (BUILDING CONSTRUCTOR), MECHANIC TRACTOR, PLUMBER, SHEET METAL WORKER, WELDER (GWAW & 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:-

1. The basic unit of mass in S.I system is _____.
    a) Pound   b) Kilogram   c) Quintal   d) Gram

2. The fraction $33\frac{1}{3}$ is equivalent to _____.
    a) 33.13   b) 33.11   c) 33.23   d) 33.333

3. In CGS system, the unit of force is _____.
    a) Newton   b) Pound   c) Dyne   d) Kilogram

4. When a substance is immersed in a liquid, its mass _____.
    a) Decreases   b) Increases
    c) Is not affected   d) Becomes equal to its weight

5. If 0.625 is expressed as a simple fraction is _____.
    a) $\frac{5}{8}$ b) $\frac{6}{8}$ c) $\frac{5}{6}$ d) $\frac{6}{5}$

6. A 100 meters long rope is cut into 2 parts, so that one part is 2/5th of the total length. Length of the two parts in separately is _____.
    a) 20m, 50m   b) 40m, 60m   c) 30, 70m   d) 50m, 50m

7. The weight of a substance is given by the formula: -
    a) Mass X gravitational pull
    b) $\dfrac{Mass}{Gravitational\ pull}$
    c) $\dfrac{Gravitational\ pull}{Mass}$
    d) Mass x gravitational pull x 2

8. Bronze is an alloy of _____.
    a) Copper, Tin and Lead
    b) Copper and Tin
    c) Copper and Zinc
    d) Copper, Tin and Zinc

9. If a person's salary is Rs. 450 and he saves Rs. 90 every month. The percentage of his earnings he saves is _____.
    a) 20%
    b) 50%
    c) 40%
    d) 15%

10. Density is calculated by the formula.
    a) $\dfrac{Mass}{Volume}$
    b) $\dfrac{Mass}{Unit\ Volume}$
    c) $\dfrac{Mass}{Weight}$
    d) None of these

11. If $4\frac{2}{5}$ kg of biscuits is to be packed in packets and each packet will weigh $\frac{2}{10}$ kg of biscuits. The number of packets formed will be _____.
    a) 44 packets
    b) 10 packets
    c) 22 packets
    d) 16 packets

12. Plain steel has the following ingredients: -
    a) Carbon and Tungsten
    b) Iron and Carbon
    c) Iron and Tungsten
    d) Nickel and Iron

13. The result after simplification of the following equation $13 - [-2-\{30-(5)^2 + (4/2)\}]$ is: -
    a) 0
    b) 4
    c) 8
    d) 22

14. Which of these is a non-conductor?
    a) Aluminum
    b) Rubber
    c) Steel
    d) Solder

15. Which of the following are in proportion?
    a) 6:8 :: 5:15
    b) 3:7 :: 2:7
    c) 10:21 :: 4:8.4
    d) None of these

16. Pure tin is obtained from its ore tin stone by the process of _____.
    a) Galvanization
    b) Smelting
    c) Electrolysis
    d) Electromagnetic separation

17. A boy rides a cycle at a speed of $1\frac{3}{2}$ km per hour. How far will he go at the same speed in $3\frac{2}{10}$ hours.
    a) 8 km
    b) 40 km
    c) $\frac{9}{10}$ km
    d) $\frac{32}{5}$ km

18.   The property of a metal by which a metal turns into a liquid after being heated to certain temperature is called _____.
a) Malleability   b) Fusibility   c) Conductivity   d) Elasticity

19.   The ratio of Oxygen to Acetylene in a mixture is 5:6 then the oxygen present in the mixture of 22,000 cc is
a) 20000 cc   b) 12000 cc   c) 10000 cc   d) Not known

20.   Ultimate Tensile Stress is _____.
a) The point of pull at which a metal breaks
b) The point at which metal acquires elasticity
c) The temperature at which metal turns to liquid
d) None of these

21.   The melting point of non-ferrous metals is _____.
a) High   b) Low   c) Medium   d) Very high

22. $80° C =$
a) $180° F$ b) $178° F$ c) $176° F$ d) $190° F$

23.   This is the property by which a metal can be forged to sheets without heating: -
a) Brittleness   b) Ductility   c) Malleability   d) Tenacity

24.   The product of 4 1/5 m x 5 1/8 m. expressed in sq decimeters is _____.
a) 215.25 sq decimeters   b) 21.525 sq decimeters
c) 2152.5 sq decimeters   d) 21525 sq decimeters

25.   A picture projected on a screen is 15 times the actual size. If the projected image is 143.56 cm, the actual size of the image is _____
a) 0.95 cm   b) 9.570 cm   c) 9.670 cm   d) 9.650 cm

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