

PHASE I (PART I)

**OBJECTIVE TYPE TEST FOR THE POST OF
SUPERVISOR TRAINEE (MECHANICAL) FOR CANSRU**

I. GENERAL AWARENESS

1. Which country established first European Colony in Andaman Nicobar Island?
 - a) France
 - b) Denmark**
 - c) England
 - d) Portugal
2. The Ottawa process negotiations are related to
 - a) Environmental pollution
 - b) Ozone layers depletion
 - c) Nuclear weapons**
 - d) Banning of landmines**
3. Which of the following instrument is used to measure the intensity of earthquakes?
 - a) Barometer
 - b) Anemometer
 - c) Tiltmeter
 - d) Seismograph**
4. The biggest producers of oil within the members of Organization of petroleum Exporting Countries (OPEC) is
 - a) Iraq
 - b) Iran
 - c) Saudi Arabia**
 - d) Kuwait

5. What is the S.I. unit for Luminous Intensity?

a) Candela

b) Weber

c) Mole

d) Ampere

6. Which of the following states is located in Zone-V, the highest-risk seismic zone in India?

a) Maharashtra

b) Karnataka

c) Punjab

d) Assam

7. Where is the Tungabhadra sanctuary located ?

a) Madhya Pradesh

b) Uttar Pradesh

c) West Bengal

d) Karnataka

8. 22 April is observed Internationally as?

a) Labour Day

b) Press Freedom Day

c) Earth Day

d) Environmental Day

9. In which year fundamental duties were included in the Indian constitution?

a) 1974

b) 1976

c) 1975

d) 1977

10. Who was the first Indian to win an individual Olympic gold medal?

- a) P V Sindhu
- b) P T Usha
- c) Abhinav Bindra
- d) Neeraj Chopra

II. REASONING ABILITY

11. What comes next in the series: 2P, 5M, 10J, 17G, ...?

- a) 26D
- b) 12A
- c) 24F
- d) 40P

12. Flow : River :: Stagnant : ?

- a) Stream
- b) Canal
- c) Rain
- d) Pool

13. PMT, OOS, NQR, MSQ, ?

- a) LVR
- b) LUP
- c) LVP
- d) LRP

14. Find the odd one out from the given set of numbers.

16, 81, 100, 256, 2401

- a) 81
- b) 16

c) 100

d) 2401

15. Which one will replace the question mark ?

2	4	0
1	2	4
3	1	3
36	?	91

a) 59

b) 25

c) 48

d) 73

16. A man walks 5 km toward south and then turns to the right. After walking 3 km he turns to the left and walks 5 km. Now in which direction is he from the starting place?

a) South-West

b) North-East

c) South

d) North

17. In a code, CORNER is written as GSVRIV. How can CENTRAL be written in that code?

a) GIRXVEP

b) GJRYVEP

c) GNFJKER

d) DFOUSBM

18. Institute is related to Academy in the same way as Decree is related to ____?

a) Mandate

b) Judge

c) Court

d) Blame

19. If A stands for +, B stands for -, C stands for x, then what is the value of $(10 \text{ C } 4) \text{ A } (4 \text{ C } 4) \text{ B } 6$?

a) 46

b) 50

c) 55

d) 60

20. Five girls are sitting in a row. Rashi is not adjacent to Sulekha or Abha. Anuradha is not adjacent to Sulekha. Rashi is adjacent to Monika. Monika is at the middle in the row. Then, Anuradha is adjacent to whom out of the following?

a) Abha

b) Monika

c) Sulekha

d) Rashi

III. NUMERICAL ABILITY

21. If one-third of one-fourth of a number is 15, then three-tenth of that number is:

a) 28

b) 54

c) 36

d) 44

22. If $2994 \div 14.5 = 172$, then $29.94 \div 1.45 = ?$

a) 1.72

b) 172

c) 17.2

d) 0.172

23. The sum of ages of 5 children born at the intervals of 3 years each is 50 years. What is the age of the youngest child?

a) 8 Years

b) 4 Years

c) 12 Years

d) 14 Years

24. How many times in a day, the hands of a clock are straight?

a) 22

b) 24

c) 44

d) 48

25. Sachin was twice as old as Ajay 10 years back. How old is Ajay today if Sachin will be 40 years old 10 years hence?

a) 10 years

b) 20 years

c) 30 years

d) 50 years

26. A train 280 m long is moving at 60 km/hr. Time taken by the train to cross a tunnel 220 m long is?

a) 15 sec

b) 20 sec

c) 25 sec

d) 30 sec

27. The largest natural number by which the product of three consecutive even natural numbers is always divisible is?

a) 16

b) 24

c) 48

d) 96

28. The greatest number of four digits which is divisible by 15, 25, 40 and 75 is:

a) 9400

b) 9600

c) 9000

d) 9600

29. A man took loan from a bank at the rate of 12% p.a. simple interest. After 3 years he had to pay Rs. 5400 interest only for the period. The principal amount borrowed by him was:

a) Rs 15000

b) Rs 12000

c) Rs 25000

d) Rs 18000

30. Three unbiased coins are tossed. What is the probability of getting at most two heads?

a) $\frac{1}{4}$

b) $\frac{2}{3}$

c) $\frac{3}{8}$

d) $\frac{7}{8}$

IV. ENGLISH LANGUAGE

31. Choose the word which best expresses the meaning of the given word.

“VENT”

a) End

b) Opening

c) Stodge

d) Closing

32. Fill in the blanks meaningfully, in the below statement from the following options.

" While start-ups have reach, they introduce products, they open-up markets."

a) Limited, when, innovative, new

b) Limited, since, new, innovative

c) Restricted, while, innovative, new

d) Restricted, when, new, innovative

33. Choose the antonym of the given word
"Enormous"

- a) Weak
- b) Soft
- c) Average

d) Tiny

34. Choose the one which can be substituted for the given sentence.

"One who has little faith in human sincerity and goodness"

- a) Stoic
- b) Egoist
- c) Cynic
- d) Fatalist

35. Sentence improvement - Can you tell me why did you not speak the truth?

- a) Why did not you speak
- b) Why you did not speak
- c) That why did you not speak
- d) No improvement

36. My cousin has invested a lot of money ____ farming

- a) into
- b) in
- c) on
- d) for

37. The social worker devoted

- P. to the upliftment
- Q. of the people
- R. his entire life
- S. of his village

a) RPQS

b) SRQP

c) PQRS

d) QRSP

38. **INGENUITY** antonym

a) Dullness

b) Skillfulness

c) Certainty

d) Sentimental

39. Choose the one which can be substituted for the given sentence from the following.
"A style in which a writer makes a display of his knowledge"

a) Verbose

b) Pedantic

c) Ornate

d) Pompous

40. The miser gazed at the pile of gold coins in front of him.

a) avidly

b) admiringly

c) earnestly

d) thoughtfully

V. SUBJECT BASED

41. Which valve is commonly used to prevent reverse flow in pipelines?

a) Check Valve

b) Globe Valve

c) Butterfly Valve

d) Gate Valve

42. What is the purpose of insulation in pipelines?

a) Prevent heat loss/gain

b) Increase pressure

c) Increase vibration

d) Reduce flow rate

43. Which component is used to absorb vibration in piping systems?

a) Flange

b) Gasket

c) Expansion Joint

d) Coupling

44. Before entering a confined space onboard a vessel, the first requirement is:

a) Start welding

b) Gas testing

c) Painting

d) Pump operation

45. Which law states that pressure applied to a confined fluid is transmitted equally in all directions?

a) Newton's Law

b) Pascal's Law

c) Hooke's Law

d) Boyle's Law

46. Which material is commonly used for making cutting tools?

a) Copper

b) Mild Steel

c) High Speed Steel

d) Aluminium

47. In a four-stroke diesel engine, power is produced during:

a) Suction stroke

b) Compression stroke

c) Power stroke

d) Exhaust stroke

48. The minimum safe oxygen level for confined space entry is generally:?

a) 10%

b) 19.5 %

c) 30.5 %

d) 15 %

49. "LOTO" in maintenance safety stands for:?

a) Lock Out Tag Out

b) Look Out Turn Off

c) Lock Open Turn On

d) Leave Open Take Out

50. Which extinguisher is commonly used for electrical fires?

a) Water extinguisher

b) Foam extinguisher

c) CO₂ extinguisher

d) Sand bucket only

51. Which document identifies hazards and control measures before starting a job?

a) Risk Assessment

b) Work permit

c) Gate pass

d) Job card

52. Which welding defect is caused by trapped gas bubbles?

a) Crack

b) Porosity

c) Distortion

d) Slag inclusion

53. The function of a jig is to:

a) Hold the tool only

b) Guide the cutting tool

c) Increase machine speed

d) Reduce lubrication

54. In production planning, "inventory" means:

a) Finished product only

b) Raw materials only

c) Stock of materials/products

d) Scrap materials only

55. Which material property indicates resistance to deformation?

a) Hardness

b) Elasticity

c) Brittleness

d) Ductility

56. Which machine element is used to transmit power between shafts?

a) Bearing

b) Coupling

c) Rivet

d) Gasket

57. Which type of pump is suitable for high discharge and low pressure?

a) Gear Pump

b) Reciprocating Pump

c) Centrifugal Pump

d) Screw Pump

58. The function of a flywheel is to?

a) Increase friction

b) Reduce engine speed

c) Store rotational energy

d) Increase vibration

59. Which operation is performed to enlarge an existing hole accurately?

a) Drilling

b) Reaming

c) Turning

d) Milling

60. Which instrument is used for precise measurement of small dimensions?

a) Measuring Tape

b) Micrometer

c) Anemometer

d) Measuring Tape

61. Unit mass of steel=.....

a) 785 kg/m³

b) 450 kg/m³

c) 450 kg/m³

d) 7850 kg/m³

62. When a body is immersed wholly or partially in a liquid, it is lifted by a force equal to the weight of liquid displaced by the body. This statement is called

a) Principle of floatation

b) Bernoulli's theorem

c) Archimedes' principle

d) Pascals law

63. In centrifugal casting, where do impurities typically accumulate due to the centrifugal force

a) Uniformly throughout the casting

b) At the inner surface of the casting

c) At the centre of the casting

d) At the outer edges of the casting

64. If there is no melting of the edges of the base metal at the root face or on the side face or between the weld runs, then it is

a) Burn Through

b) Excessive Penetration

c) Lack of Penetration

d) Lack of Fusion

65. An ideal gas at 27°C is heated at constant pressure till the volume becomes three times. The temperature of the gas will then be

a) 927°C

b) 81°C

c) 627°C

d) 900°C

66. A two-stroke engine has a speed of 750 rpm. A four-stroke engine having an identical cylinder size runs at 1500rpm. The theoretical output of the two stroke engine will be

a) Half that of the four-stroke engine

b) Three Fourth ($3/4$) that of the four-stroke engine

c) The same as that of the four-stroke engine

d) Twice that of the four-stroke engine

67. The thermal efficiency of a Carnot engine operating between source temperature 727°C and sink temperature 27°C is

a) 60%

b) 30%

c) 50%

d) 70%

68. In a centrifugal pump, what is the primary role of the impeller

a) To create a vacuum

b) To increase the velocity of the fluid

c) To regulate the flow rate

d) To filter the fluid

69. Pig Iron refined in Cupola produces

a. Cast Iron

b. Wrought Iron

c. Steel

d. None of the options

70. The relationship between stress and strain in the elastic region of a material is described by which law.

a. Hooke's Law

b. Newton's Law

c. Bernoulli's Principle

d. Pascal's Law

71. Which of the following describes the property of a material to withstand loads tending to reduce size.

- a. Tensile strength
- b. Compressive strength
- c. Shear strength
- d. Flexural strength

72. A flow in which the quantity of liquid flowing per second is constant is called

- a. Steady flow
- b. Streamline flow
- c. Turbulent flow
- d. Unsteady flow

73. Which test is commonly used to determine the impact strength of a material.

- a. Tensile test
- b. Compression test
- c. Charpy test
- d. Hardness test

74. Which law of thermodynamics introduces the concept of entropy.

- a. Zeroth Law
- b. First Law
- c. Second Law
- d. Third Law

75. In a refrigeration cycle, which component is responsible for absorbing heat from the space to be cooled.

- a. Condenser
- b. Evaporator
- c. Compressor

d. Expansion valve

76. The ratio of the inertia force to the elastic force is called

- a. Reynold's number
- b. Froude's number
- c. Weber's number
- d. Mach number

77. Which type of stress occurs when a material is subjected to a force that tends to twist it.

- a. Tensile stress
- b. Compressive stress
- c. Shear stress
- d. Torsional stress

78. The kinematic viscosity is the

- a. Ratio of absolute viscosity to the density of the liquid
- b. Ratio of density of the liquid to the absolute viscosity.
- c. Product of absolute viscosity and density of the liquid
- d. Product of absolute viscosity and mass of the liquid

79. A differential manometer is used to measure

- a) Atmospheric pressure
- b) Pressure in pipes and channels
- c) Pressure in venturi meter
- d) Difference of pressures between two points in a pipe

80. Which fire extinguisher is commonly used for electrical fires.

- a) Water type
- b) Foam type
- c) CO₂ type

d) Sand bucket

81. Upto what thickness of plate, edge preparation for welding is not required

a) 10 mm

b) 4 mm

c) 8 mm

d) 6 mm

82. The operation of forcing additional air under pressure in the engine cylinder is known as?

a) Supercharging

b) Scavenging

c) Pre-ignition

d) Turbulence

83. Which of the following has dimensionless unit?

a) Stress

b) Specific gravity

c) Specific volume

d) Specific weight

84. The material used for coating the electrode is called

a) Protective layer

b) Slag

c) Flux

d) Deoxidiser

85. Which of the following statement is wrong?

a) The ceramic tools can withstand temperature upto 600°C only.

b) The diamond is the hardest tool material and can run at cutting speeds about 50 times that of high speed steel tool.

c) The ceramic tools can be used at cutting speeds 40 times that of high speed steel tools.

d) The cemented carbide tools can be used at cutting speeds 10 times that of high speed steel tools.

86. The surface finish is improved by the increase in?

a) Cutting speed

b) Nose radius

c) True rake angle

d) All of these

87. What does the "PASS" acronym stand for in relation to using a fire extinguisher?

a) Pull, Aim, Spray, Sweep

b) Point, Attach, Squeeze, Splash

c) Press, Activate, Squirt, Spray

d) Pick, Align, Shoot, Scatter

88. Sulphur in cast iron

a) Makes the iron soft and easily machinable

b) Increases hardness and brittleness

c) Make the iron white and hard

d) Aids fusibility and fluidity

89. The moisture in a refrigerant is removed by

a) Evaporator

b) Safety relief valve

c) Dehumidifier

d) Driers

90. The surface roughness on a drawing is represented by

- a) Circles
- b) Squares
- c) Zig-zag lines
- d) Triangles

91. Accuracy of measuring equipment is

- a) The closeness with which a measurement can be read directly from a measuring instrument.
- b) A measure of how close the reading is to the true size.
- c) The difference between measured value and actual value the smallest change in measurand that can be measured.
- d) All of the above

92. When two plates butt together and are riveted with two cover plates with two rows of rivets, the joint is known as

- a) lap joint
- b) butt joint
- c) single riveted single cover butt joint
- d) double riveted double cover butt joint

93. If the engine coolant leaks into the engine oil, then engine oil

- a) Becomes foamy
- b) Turns black
- c) Appears milky
- d) None of these

94. Which type of fire is caused by flammable liquids such as gasoline or oil?

- a) Class A fire
- b) Class B fire

c) Class C fire

d) Class D fire

95. A feeler gauge is used to check

a) Radius

b) Surface roughness

c) Thickness of clearance

d) Unsymmetrical shape

96. The motion of the cam is transferred to the valves through

a) Rocker arms

b) Camshaft pulley

c) Pistons

d) Valve stems

97. Air refrigeration operates on

a) Ericsson cycle

b) Brayton cycle

c) Rankine cycle

d) Carnot cycle

98. Fire can be reduced by removing

a) Oxygen

b) Heat

c) Fuel

d) Any of the above

99. Which of the following is correct?

a) Absolute Pressure = Atmospheric Pressure + Vacuum Pressure

b) Absolute Pressure = Atmospheric Pressure - Gauge Pressure

c) Absolute Pressure = Atmospheric Pressure + Gauge Pressure

d) Absolute Pressure = Atmospheric Pressure x Vacuum Pressure

100. Multistage centrifugal pumps are used to obtain

a) High discharge

b) High head

c) Pumping of viscous fluids

d) High head and high discharge

