

COCHIN SHIPYARD LIMITED

(A Govt. of India Enterprise)

KOCHI -15

**OBJECTIVE TYPE WRITTEN TEST TO THE POST OF
SENIOR PROJECT OFFICER (MECHANICAL)**

31 JANUARY 2025

DURATION OF THE TEST : 60 Minutes

MAXIMUM MARKS : 50

DO NOT OPEN THIS QUESTION PAPER-CUM-ANSWER BOOKLET UNTIL ASKED TO DO SO

GENERAL INSTRUCTIONS

1. **ANSWER ALL QUESTIONS.** There shall be no negative marks.
2. **Answers are to be marked using ✓ mark against the most appropriate option among the options provided in the Question Booklet using BALL POINT PEN.**
3. Rough work, if any, is to be done on space provided in the Question Booklet only. No separate sheet will be provided for rough work.
4. **Calculators, Mobile, Electronic items etc., are not permitted inside the examination hall.**
5. Candidates seeking, receiving and /or giving assistance during the test will be disqualified.
6. The right to exclude any question (s) from final evaluation rests with CSL.
7. Do not seek any clarification on any item in the Question Booklet. Use your judgment.

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Please fill in the following details using ball point pen.

Name of Candidate	
Registration No.	
Name of Post	
Signature of candidate	
Signature of invigilator	

**THIS QUESTION PAPER-CUM-ANSWER BOOKLET SHOULD BE HANDED OVER
TO THE INVIGILATOR ON COMPLETION OF THE TEST**

**OBJECTIVE TYPE TEST FOR THE POST OF SENIOR PROJECT OFFICER
(MECHANICAL) ON CONTRACT BASIS FOR CKSRU, KOLKATA**

GENERAL KNOWLEDGE

1. Which country is known as the “Land of the Rising Sun” ?
 - a) Poland
 - b) **Japan**
 - c) India
 - d) Germany

2. What is the motto incorporated under our National Emblem ?
 - a) Jai Hind
 - b) **Satyameva Jayate**
 - c) Satyam Shivam
 - d) Amendment Act Sundaram

3. Which bill was recently introduced by the Union Ministry of Ports, Shipping, and Waterways to promote coastal trade ?
 - a) Maritime Trade Promotion Bill, 2024
 - b) Coastal Trade and Transport Bill, 2024
 - c) Indian Shipping Bill, 2024
 - d) **Coastal Shipping Bill, 2024**

4. Which state has largest coastline in India ?
 - a) **Gujarat**
 - b) Maharashtra
 - c) West Bengal
 - d) Andhra Pradesh

5. Who is the the youngest ever chess world champion?

- a) **D. Gukesh**
- b) Garry Kasparov
- c) Praggnanandhaa
- d) Vidit gujrathi

6. Who was the first recipient of the Arjuna Award?

- a) Kapil Dev
- b) Mohinder Amarnath
- c) **Major Dhyan Chand**
- d) Vikas Krishan

7. Who became the first woman officer to command an Indian Navy warship?

- a) **Captain Radhika Menon**
- b) Captain Sarita Koli
- c) Commander Priya Jha
- d) Lt. Commander Anuja Sandeep

8. Who was the first woman in India to join the Indian Police Service (IPS)?.

- a) **Kiran Bedi**
- b) Pooja Yadav
- c) Rukmini Sanyal
- d) Meera Sanyal

9. Which of the following Acts introduced 'provincial autonomy' by discontinuing the application of dyarchy?

- a) Government of India Act, 1919
- b) Charter Act of 1813
- c) India Council Act, 1909
- d) **Government of India Act, 1935**

10. What is the main gas found in the Earth's atmosphere ?

- a) Oxygen
- b) Carbon Dioxide
- c) **Nitrogen**
- d) Hydrogen

Subject Based :

11. Which of the following is used on occasion in the ship building and ship repair industry, when it is not practical to put a ship in drydock for repair or alteration ?

- a) Retaining wall
- b) Apron
- c) Water cushion
- d) **Cofferdam**

12. The best information on the location of the blocks when dry docking a vessel is contained in the

- a) Shell expansion
- b) **Ship's docking plan**
- c) Docking diagram
- d) General arrangement plan

13. When a body is placed over a liquid, it will float if

- a) Gravitational force is equal to the up-thrust of the liquid
- b) Gravitational force is more than the up-thrust of the liquid
- c) Gravitational force is less than the up-thrust of the liquid
- d) None of the above

14. What is the devil's claw?

- a) Cable chain locker
- b) Joining Shackles
- c) Warping drums
- d) Locker between windlass and bow stopper

15. What is the main function of Hawse pipes ?

- a) Helps in rope work
- b) To provide a lead for cable from windlass to Anchor
- c) Drainage of Green Water
- d) Ventilation and Sounding

16. What is Thermal gauging ?

- a) Removal of unwanted hot metal by blowing it
- b) Edge preparation
- c) Riveting
- d) Thermal cutting

17. Which of the following instruments measures propeller drop

- a) Feeler Gauge

- b) Slip Gauge
- c) Poker Gauge
- d) Screw Gauge

18. Normally so called 'single screw pump' are used as sludge pumps in the engine room.

What is the correct technical name of these pumps ?

- a) Snake pump
- b) Screw pump
- c) Progressive cavity pump
- d) Gear rotor pump

19. Which of the following is an important requirement for proper functioning of sacrificial anode system ?

- a) Good insulation between anodes and ship's hull
- b) Providing protection of anodes from being painted over during hull painting
- c) Good electrical continuity between anodes and ship's hull
- d) Presence of an insulating material between anode and the cathode

20. Safety methods for the use of Oxy Acetylene cutting torch

- a) Used proper flow meter at ends
- b) Proper MCB arrestor at Torch and at regulator ends
- c) Proper ELCB arrestor at Torch and at regulator ends
- d) Proper Flash back arrestor at Torch and at regulator ends

21. Transverse fillet welds are designed for

- a) Tensile strength

- b) Compressive strength
- c) Shear strength
- d) Bending strength

22. Which of the following is an adhesive type wear of a cylinder liner ?

- a) Clover-leafing
- b) Scoring
- c) Scuffing
- d) Ovality

23. Which of the following valve is liable to open or close under pressure of fluid, if not locked in position?

- a) Gate valve
- b) Globe valve
- c) Plug valve
- d) Butterfly valve

24. Which type of welding uses an oxygen-acetylene gas ?

- a) Thermit welding
- b) Electric arc welding
- c) Gas welding
- d) Forge welding

25. Which fusion welding process is best suited for welding of pipes

- a) MMAW
- b) GTAW
- c) SAW

d) Resistance butt welding

26. The relation $C_p - C_v = R$ applies to:

- a) Perfect gases
- b) Solid materials
- c) Superheated steam
- d) Liquids

27. Bernoulli's equation is derived by applying:

- a) Newton's second law
- b) The momentum equation
- c) Energy balance principle
- d) Kinetic energy only

28. The bending moment is maximum where:

- a) Shear force is zero
- b) Shear force is maximum
- c) Load is uniformly distributed
- d) Load is zero

29. A ball is dropped from a certain height. After hitting the ground, it bounces back but does not reach its original height. This happens because:

- a) The ball gains energy during the bounce.
- b) Some energy is lost as heat and sound.
- c) The gravitational force decreases during the bounce.
- d) The ball is heavier after hitting the ground.

30. The material removal process in grinding is primarily by:

- a) Shearing
- b) Friction
- c) Abrasion
- d) Deformation

31. A flywheel is used to:

- a) Absorb shocks
- b) Store energy
- c) Transmit force
- d) Lubricate machines

32. The gear ratio in spur gears is:

- a) Independent of the pitch circle diameter
- b) Depends on module
- c) Ratio of teeth on two gears
- d) Equal to input speed/output speed

33. Governor in an engine is used to:

- a) Measure fuel efficiency
- b) Regulate speed
- c) Measure torque
- d) Control lubrication

34. The most common inventory model is:

- a) EOQ
- b) MRP

- c) Just-in-time
- d) ABC analysis

35. The critical path method (CPM) is used for:

- a) Economic ordering
- b) Project scheduling
- c) Lean manufacturing
- d) Machine breakdown analysis

36. Toughness of a material is measured by:

- a) Tensile strength
- b) Impact test
- c) Hardness test
- d) Young's modulus

37. A degree of freedom of a planar mechanism is given by:

- a) Grubler's equation
- b) Bernoulli's principle
- c) Euler's law
- d) Newton's equation

38. When a body rotates, centripetal force acts:

- a) Inward to the center
- b) Outward away from the center
- c) Tangentially
- d) Perpendicular to the axis

39. In welding, the function of the flux is to:

- a) Join two parts
- b) Prevent oxidation
- c) Remove impurities
- d) Both B and C

40. The type of friction between two surfaces when there is no relative motion is:

- a) Static friction
- b) Kinetic friction
- c) Rolling friction
- d) Dynamic friction

41. Typical joining method of copper pipes below 50NB

- a) Brazing
- b) TIG welding
- c) Brazing and welding
- d) Welding

42. What are the factors which influence distortion of weld joint ?

- a) Thickness of the plate
- b) Root gap
- c) Heat input
- d) All of the options

43. The use of shielding gas to protect the root weld from oxidation is called

- a) Purging
- b) Backing
- c) Preheating

d) Hot start

44. In arc welding, the length of arc is directly related to

- a) Current
- b) Voltage
- c) Both current and voltage
- d) None of the options

45. In electrode E7018, what does 70 stands for ?

- a) Tensile strength
- b) Electrode
- c) Position
- d) Type of coating

46. A steel bridge shows minor cracks after years of use. Which factor is most likely responsible?

- a) Improper design
- b) Fatigue stress
- c) Thermal expansion
- d) Plastic deformation

47. You notice whirlpools forming behind bridge piers during heavy rain. This is a result of:

- a) Laminar flow
- b) Turbulent flow
- c) Hydraulic jump
- d) Stagnation point

48. A fireman notices that the range of water spray from the hose decreases suddenly.

What is likely causing this?

- a) Decreased water velocity
- b) Increased water density
- c) Reduced atmospheric pressure
- d) Water temperature changes

49. During heavy rains, a car stalls when water reaches the air intake, causing the engine to fail. What principle best explains why the engine stopped?

- a) Bernoulli's principle
- b) Hydrostatic pressure
- c) Hydraulic lock
- d) Continuity equation

50. A dam's water flow outlet is located at the bottom. Water flows out with greater pressure compared to the upper part. What principle explains this?

- a) Hydrostatic pressure increases with depth
- b) Continuity equation
- c) Bernoulli's theorem
- d) Pascal's law
