



भारत सरकार :: अंतरिक्ष विभाग
Government of India :: Dept. of Space

सतीश धवन अंतरिक्ष केंद्र शार, श्रीहरिकोटा

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Section : **Boiler Attendant PCR**

Q.1 एलपीजी (तरलीकृत पेट्रोलियम गैस) एक हाइड्रोकार्बन है जो किसका मिश्रण होता है?

1. इथेन और ब्यूटेन
2. ब्यूटेन और प्रोपेन
3. प्रोपिलीन और इथेन
4. मीथेन और इथेन

Ans ☒ 1. A
☒ 2. B
☒ 3. C
☒ 4. D

Question ID : 5834938051

Q.2 IBR पाइपिंग कवर करता है

- A. 3.5 kg/sq. cm से कम दाब वाले स्टीम पाइप
- B. 3.5 kg/sq. cm से अधिक दाब वाले स्टीम पाइप
- C. 2.5 kg/sq. cm से अधिक दाब वाले स्टीम पाइप
- D. 0.35 Kg/sq. cm से अधिक दाब वाले स्टीम पाइप

Ans ☒ 1. A
☒ 2. B
☒ 3. C
☒ 4. D

Question ID : 5834937986

Q.3

इसरो का "मंगल कक्षा अभियान" पीएसएलवी -सी25 रॉकेट द्वारा प्रमोचित किया गया

- A. 5 नवंबर 2012
- B. 5 नवंबर 2011
- C. 5 नवंबर 2013
- D. 5 नवंबर 2014

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938060

Q.4

Orsat meter is used for

- A. Gravimetric analysis of flue gases
- B. Volumetric analysis of flue gases
- C. Mass flow measurement of flue gases
- D. Measuring smoke density of flue gases

Ans  1. A 2. B 3. C 4. D

Question ID : 5834937987

Q.5

Water flows in a tube of diameter 10 mm, at $100 \text{ mm}^3/\text{s}$ then the flow velocity is ____ mm/s

- A. $\pi/4$
- B. $4/\pi$
- C. $100/\pi$
- D. None of the above

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938022

Q.6

Which of the following fuel has the highest calorific value?

- A. Peat
- B. Lignite
- C. Wood
- D. Bituminous coal

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938019

Q.7 What is induced draft?

- A. Fan or fans on the inlet side of boiler pulling air through the boiler
- B. Condenser on the exhaust side of boiler pulling air through the boiler
- C. Fan or fans on the exhaust side of boiler pulling air through the boiler
- D. Evaporator on the exhaust side of boiler pulling air through the boiler

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938005

Q.8 विषम को ज्ञात करें

- A. एककयूरेसी (Accuracy)
- B. प्रिसीजन (Precision)
- C. त्वरण (Acceleration)
- D. रिपियटेबिलिटी (Repeatability)

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938055

Q.9 Fusible plug prevents overheating due to _____

- A. Water level falling very low
- B. Fuel level falling very low
- C. Water level Increasing very high
- D. Fuel level Increasing very high

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834937991

Q.10 Fluid pressure is also expressed as _____

- A. Force
- B. Head
- C. Flow rate
- D. Density

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938013

Q.11 Find the odd one from given alternatives

- A. 3, 5
- B. 6, 2
- C. 1, 7
- D. 7, 3

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938054

Q.12 The ratio between diameter of internal flue tubes and shell in a Lancashire boiler is

- A. Three fifth
- B. Two fifth
- C. Four fifth
- D. One fifth

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834937992

Q.13 When the speed of an object is increased by 4 times, its kinetic energy becomes.....

- A. 3 times
- B. 2 times
- C. 16 times
- D. 4 times

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938052

Q.14 Name the neutral atom in the periodic table which has the same number of electrons as K^+ and Cl^- ions

- A. Helium
- B. Krypton
- C. Neon
- D. Argon

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938049

Q.15 यदि x , y तथा z एक त्रिभुज की तीन भुजाएं हैं, तो निम्नलिखित में से कौन सा सत्य है?

- A. $(x + y) = z$
- B. $(x - y) > z$
- C. $(x + y) < z$
- D. $(x + y) > z$

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938044

Q.16 किन संस्थानों ने संयुक्त रूप से ओशियन्स (OCEANS) 2022 सम्मेलन एवं प्रदर्शनी का आयोजन किया?

- A. आईआईटी मद्रास एवं एनआईओटी
- B. भारतीय नौसेना तथा एनआईओटी
- C. मेर्सक सी लाइन तथा भारतीय नौसेना
- D. यूनेस्को तथा यूएनएफसीसीसी

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938059

Q.17 In a multiple burner system, when fuel flow or air flow for one burner is adjusted, then the operator has to check for

- A. Flue gas colour in chimney
- B. Flue gas flow rate
- C. Flame stability of all burners
- D. None of the above

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834937997

Q.18 Boiler stop valve is also called as

- A. Throttling valve
- B. Crown valve
- C. Safety valve
- D. Pinch valve

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834937989

Q.19 Let us go to beach

- A. an
- B. the
- C. a
- D. no article

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938056

Q.20

$$(a+b)^2 =$$

- A. a^2+b^2-2ab
- B. a^2-b^2+2ab
- C. a^2+b^2+2ab
- D. a^2-b^2

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938036

Q.21 Steam is superheated when it is heated above its corresponding _____ at a given pressure

- A. Stagnation temperature
- B. Latent heat
- C. Saturation temperature
- D. Boiling point

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938001

Q.22 _____ gas cycle is used in steam power plants

- A. Ideal cycle
- B. Brayton cycle
- C. Otto cycle
- D. Rankine cycle

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938006

Q.23 Deformation that occurs over a period of time when a material is subjected to constant stress at constant temperature is called _____

- A. Fatigue
- B. Blow hole
- C. Creep
- D. Crack

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938009

Q.24 Which one of the following is a major component in the calculation of heat loss for a boiler system?

- A. Heat loss in dry flue gasses
- B. Heat loss due to moisture present in the fuel
- C. Heat loss due to radiation
- D. None of the above

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938003

Q.25 उच्च दाब बॉयलरों में निम्नलिखित में से कौन सा सुरक्षा वॉल्व अनुमित नहीं है?

- A. डेड वेट सुरक्षा वॉल्व
- B. स्प्रिंग लोडिड वॉल्व
- C. उच्च दाब और कम जल सुरक्षा वॉल्व
- D. फुल बोरे सुरक्षा वॉल्व

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834937990

Q.26

Which of the following is a water tube boiler?

- A. Lancashire
- B. Babcock and Wilcox
- C. Cornish
- D. Cochran

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834937998

Q.27

Blowdown cock on boiler is mounted at

- A. Top of the boiler
- B. Can be anywhere on the boiler
- C. Back of the boiler
- D. Bottom of the boiler

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834937988

Q.28

As per ASME section 1, PG-67.1, for electric boilers with power input more than 1100kw, how many safety or safety-relief valves are required?

- A. One safety or safety-relief valve is sufficient
- B. There shall be at least two safety or safety-relief valves
- C. There shall be more than three safety or safety-relief valves
- D. None of the above

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834937993

Q.29

बायलर में ड्रम का मूल उद्देश्य क्या है

- A. जल को नमक रहित करना
- B. जल का अतिरिक्त भंडारण करना
- C. जल से भाप अलग करना
- D. भरण जल के लिए भंडारण

Ans  1. A 2. B 3. C 4. D

Question ID : 5834937982

Q.30 Find the odd one out

- A. Ion Exchange
- B. Demineralization
- C. Reverse Osmosis
- D. Combustion

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938023

Q.31 दो डिजिट अंक के अंकों का योग 9 है, यदि इसमें 27 जोड़ा जाए, तो अंकों का क्रम उल्टा हो जाता है तो मूल अंक है

- A. 45
- B. 63
- C. 27
- D. 36

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938042

Q.32 Find the simple average of 7, 9, 15, 36, 23

- A. 28
- B. 18
- C. 26
- D. 19

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938038

Q.33 Liquid penetrant testing works on the principle of

- A. Capillary action
- B. Temperature reduction
- C. Colour wavelength
- D. Chemical reaction

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938018

Q.34

Find the missing term in 3, 15, ?, 63, 99, 143

- A. 27
- B. 35
- C. 45
- D. 56

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938057

Q.35 A rise in conductivity of boiler water indicates _____

- A. Rise in pressure of boiler water
- B. Rise in temperature of boiler water
- C. Rise in volume of boiler water
- D. Rise in contamination of boiler water

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938026

Q.36 With reference to demineralization of boiler feed water, cation resin exchanges cations with _____

- A. Hydrogen Ions
- B. Oxygen Ions
- C. Carbon Ions
- D. Nitrogen Ions

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938027

Q.37 In Economizer heat gets transferred from _____

- A. Water to flue gases
- B. Flue gases to Water
- C. Water to fuel
- D. Fuel to air

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938033

Q.38 The numerical ratio of displacement to distance for a moving object is

- A. Always less than 1
- B. Always more than 1
- C. Equal to 1
- D. Equal to 1 or less than one

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938046

Q.39 Dissolved oxygen from feed water is removed in _____

- A. Boiler drum
- B. Pre-heater
- C. Economizer
- D. Deaerator

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938024

Q.40 A device used to increase the temperature of saturated steam without raising its pressure is called

- A. Blow – off cock
- B. Fusible plug
- C. Superheater
- D. Stop valve

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938034

Q.41 At boiler start-up _____ is essential check as a safety measure

- A. Vent valve open condition
- B. Safety relief valve open condition
- C. Fuel feed valve open condition
- D. ESD valve open condition

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938015

Q.42 "Fearless governance" पुस्तक के लेखक कौन हैं?

- A. सुषमा स्वराज
- B. सोनिया गांधी
- C. शैला निगर
- D. किरण बेदी

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938058

Q.43 Two boiler drums operate at 12.1 bar pressure with drum-1 having dimensions of 300mm diameter and plate thickness of 7.9mm; drum-2 having dimensions of 900mm diameter and plate thickness of 9.5mm. Which of the following is correct?

- A. The force acting on drum-1 is greater than drum-2
- B. The force acting on drum-1 is less than drum-2
- C. The force acting on drum-1 and drum-2 is same
- D. None of the above

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834937999

Q.44 Which of the following is a synonym of INFANT?

- A. Large
- B. Short
- C. Baby
- D. Elephant

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938053

Q.45 The density of super-heated steam is more than ordinary evaporated steam at same pressure by

- A. 2 times
- B. 4 times
- C. 6 times
- D. 8 times

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938061

Q.46 एक समलंब का क्षेत्रफल 480 cm^2 है, दो समांतर भुजाओं के बीच की दूरी 15 cm है तथा एक समांतर भुजा की लंबाई 20 cm है। अन्य समांतर भुजा की लंबाई है

- A. 44 cm
- B. 34 cm
- C. 24 cm
- D. 14 cm

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938043

Q.47 To minimize metal corrosion, boiler water is best kept

- A. Fairly acidic
- B. Slightly acidic
- C. Neutral
- D. Alkaline

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938017

Q.48 In a pressure reduction valve, which of these does not change?

- A. Temperature
- B. Pressure
- C. Velocity
- D. Enthalpy

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834937984

Q.49 Density of steam at 100°C and 760 torr is _____

- A. 1000 kg/m^3
- B. 1.121 kg/m^3
- C. 0.597 kg/m^3
- D. 7.85 kg/m^3

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938007

Q.50 A bank offers 8% per year simple interest on the fixed deposits. What will be the interest earned for a 2-year period on the fixed deposit amount of Rs. 15,000.00

- A. 1400
- B. 2400
- C. 1200
- D. 24000

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938041

Q.51 For higher efficiency, economizer in Lancashire boiler will use

- A. Thermally supersaturating the boiler fluid
- B. A heat exchanger from combustion chamber
- C. Residual heat from combustion products to pre-heat the boiler fluid
- D. None of the above

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834937994

Q.52 Compared to fire tube boilers, water tube boilers have

- A. Lower efficiency
- B. Higher efficiency
- C. Same efficiency
- D. Less efficiency by 10 %

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938031

Q.53 _____ is the reason for fish mouth failure of boiler tubes

- A. Hard water
- B. Dissolved oxides
- C. High pH of feed water
- D. Overheating

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938011

Q.54 एक 70 से.मी. लम्बे तार को इस प्रकार काटा गया है कि एक टुकड़ा दूसरे टुकड़े का $\frac{2}{5}$ है। छोटा टुकड़ा कितने से.मी. का होगा?

- A. 50 से.मी.
- B. 20 से.मी.
- C. 10 से.मी.
- D. 60 से.मी.

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938039

Q.55 Oil and Grease can exist in boiler feed water as emulsion causing

- A. Foaming & fouling
- B. Steam Forming
- C. Increase in water flow rate
- D. Decrease in water flow rate

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938028

Q.56 विषम को ज्ञात करें

- A. क्लोरीन
- B. हीलियम
- C. फ्लोरीन
- D. ब्रोमियम

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938050

Q.57 किसी तत्व 'X' की परमाणु संख्या 13 है, कौन सी निष्क्रिय गैस 'X' के निकटतम है

- A. He
- B. Ar
- C. Ne
- D. Kr

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938047

Q.58 In pressure scale 1 Bar is equal to _____ Psi

- A. 0.145
- B. 1.45
- C. 14.5
- D. 145

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938014

Q.59 Calculate the pressure exerted by 100 KN force on 2.5 m² area...

- A. 40 N/m²
- B. 40 N/cm²
- C. 40 KN/m²
- D. 4 KN/m²

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938048

Q.60 Phosphates are used in the chemical treatment of boiler water to

- A. Control alkalinity of water
- B. Convert scale forming salts to relatively harmless sludge
- C. Decrease dissolved oxygen content
- D. Control acidity of water

Ans  1. A
 2. B
 3. C
 4. D

Question ID : 5834938029

Q.61 The amount of heat absorbed to evaporate 1 kg of water from its saturation temperature without change of temperature is called

- A. Sensible heat of water
- B. Latent heat of evaporation
- C. Enthalpy of steam
- D. Total heat of steam

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938021

Q.62 In recuperative air preheaters, the heat is transferred

- A. From a metal wall from one medium to another
- B. From heating an intermediate material and then heating the air from this material
- C. By direct mixing
- D. Heat is transferred by bleeding some gases from furnace.

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938035

Q.63 Boiler feed water check valve works as

- A. Non-return valve
- B. Always Open valve
- C. Always Close Valve
- D. Partially open valve

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938030

Q.64 The quadratic polynomial, whose zeros are -6 and -8 is

- A. $x^2 + 4x + 48$
- B. $4x^2 + 6x + 48$
- C. $x^2 + 14x + 48$
- D. $x^2 - 4x - 48$

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938040

Q.65 Scale formation in boiler tubes can be prevented by

- A. Use of water hardness process
- B. Use of water softener process
- C. Use of steam softener process
- D. Use of gas softener process

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938016

Q.66 For higher boiler efficiencies, the feed water is preheated by economizer by using the waste heat in _____

- A. Fuel oil
- B. Feed Water
- C. Steam
- D. Flue gas

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938032

Q.67 Purpose of steam trap is

- A. Measuring the steam flow
- B. Maintaining the steam temperature
- C. Reducing pressure loss
- D. Removing condensate with minimum loss of steam

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834937995

Q.68 In the enthalpy – entropy diagram, constant pressure lines for super-heated steam from a boiler

- A. Diverges upwards from left to right
- B. Diverges downwards from left to right
- C. Converges downwards from left to right
- D. Converges upwards from left to right

Ans ✓ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : 5834938004

Q.69 High steam low water safety valve in Cornish and Lancashire boilers consists of

- A. One spring loaded device
- B. Two spring loaded devices
- C. Combination of lever safety valve and dead weight safety valve
- D. All of the above

Ans ✗ 1. A

✗ 2. B

✓ 3. C

✗ 4. D

Question ID : 5834937996

Q.70 Light year is one of the unit of

- A. Light intensity
- B. Distance
- C. Time
- D. Mass

Ans ✗ 1. A

✓ 2. B

✗ 3. C

✗ 4. D

Question ID : 5834938045

Q.71 The flash point of the fuel oil should be used to determine the highest temperature to which the oil may be heated:

- A. For atomizing
- B. For centrifuging
- C. For coalescing
- D. For cooling

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834937983

Q.72 Caustic embrittlement occurs in boiler due to _____ of feed water

- A. pH value >13
- B. pH value <5
- C. pH value = 7
- D. Pure water

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938008

Q.73 _____ can avoid the formation of depositions in drum type boilers

- A. Feed Water treatment
- B. Reducing the feed water pressure
- C. Reducing the steam temperature
- D. Air treatment

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938010

Q.74 Bourdon tube type pressure gauge is one of the instrument used to measure the gauge pressure of _____

- A. Steam
- B. Feed water
- C. Vapour
- D. All of the above

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938012

Q.75 One kg of steam sample contains 0.8 kg of dry steam, its dryness fraction is

- A. 0.2
- B. 0.8
- C. 1.0
- D. 0.6

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938002

Q.76 The process of breaking up the fuel into fine particles to ensure good combustion is called as

- _____
- A. Settling
 - B. Straining
 - C. Pumping
 - D. Atomization

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938000

Q.77 Name the condition to be met for the burning chemical reaction to take place

- A. Mixing of fuel and air in combustion zone
- B. Proper fuel-air mixture
- C. Ignition temperature maintenance
- D. All of the above

Ans  1. A

 2. B

 3. C

 4. D

Question ID : 5834938020

Q.78

$$(a+b)^2 - (a-b)^2 =$$

- A. $2ab$
- B. $6ab$
- C. $4ab$
- D. 0

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938037

Q.79 Size of boiler tubes is specified by

- A. Mean diameter and thickness
- B. Inside diameter and thickness
- C. Outside diameter and thickness
- D. Inside diameter and outside diameter

Ans  1. A 2. B 3. C 4. D

Question ID : 5834937985

Q.80 If boiler feed water is acidic, it leads to _____

- A. Scale formation
- B. Sludge formation
- C. Corrosion
- D. Cracks

Ans  1. A 2. B 3. C 4. D

Question ID : 5834938025