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Previous Year Paper
(Civil / Mechanical)
19 Oct, 2024

भारतीय अन्तर्देशीय जलमार्ग प्राधिकरण
पत्तन,पोत परिवहन और जलमार्ग मंत्रालय, भारत सरकार
Inland Waterways Authority of India
Ministry of Ports,Shipping and Waterways, Government of India

Participant ID	
Participant Name	
Test Center Name	
Test Date	19/10/2024
Test Time	9:00 AM - 12:00 PM
Subject	Technical Assistant (Civil or Mechanical or Marine Engineering or Naval Architecture)

Section : **Quantitative Aptitude (Simple Maths)**

Q.1 **Which is the smallest seven-digit natural number that is perfectly divisible by 61?**

Ans
✔ 1. 1000034
✘ 2. 1000045
✘ 3. 1000061
✘ 4. 1000025

Question ID : **630680102030**
Option 1 ID : **630680396477**
Option 2 ID : **630680396476**
Option 3 ID : **630680396478**
Option 4 ID : **630680396479**
Status : **Answered**
Chosen Option : **2**

Q.2 **ग्राहक द्वारा नगद में भुगतान किए जाने पर, एक व्यापारी किसी वस्तु पर 15% की छूट प्रदान करता है। 15% का लाभ अर्जित करने के लिए उसे वस्तु को क्रय मूल्य से कितने प्रतिशत अधिक मूल्य पर अंकित करना चाहिए? [अपना उत्तर दशमलव के 2 स्थानों तक पूर्णांकित कीजिए।]**

Ans
✘ 1. 35.26%
✔ 2. 35.29%
✘ 3. 32.94%
✘ 4. 37.54%

Question ID : **630680862774**
Option 1 ID : **6306803378984**
Option 2 ID : **6306803378983**
Option 3 ID : **6306803378986**
Option 4 ID : **6306803378985**
Status : **Answered**
Chosen Option : **2**

Q.3 **A goods train and a superfast train started running from station A and station B respectively at the same time towards each other on parallel tracks. If distance between station A and station B is 184 km and trains are running with speeds of 91 km/h and 93 km/h respectively, then at how much distance (in km) from station B will the trains meet?**

Ans
✘ 1. 84
✔ 2. 93
✘ 3. 101
✘ 4. 106

Question ID : **630680894781**
Option 1 ID : **6306803505144**
Option 2 ID : **6306803505141**
Option 3 ID : **6306803505142**
Option 4 ID : **6306803505143**
Status : **Not Answered**
Chosen Option : **--**

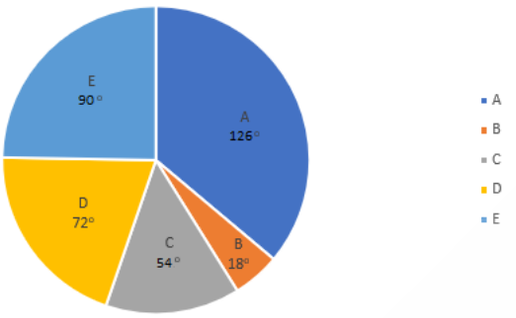
Q.4 The average weight (in kg) of the members of a family of five whose weights are 40 kg, 49 kg, 56 kg, 77 kg and 39 kg, is:

Ans
✗ 1. 53.2
✓ 2. 52.2
✗ 3. 51.2
✗ 4. 54.2

Question ID : 630680657009
Option 1 ID : 6306802571979
Option 2 ID : 6306802571978
Option 3 ID : 6306802571980
Option 4 ID : 6306802571981
Status : Answered
Chosen Option : 2

Section : Data Interpretation

Q.1 पाई चार्ट एक इंजीनियरिंग कॉलेज में विभिन्न शाखाओं (A, B, C, D, और E) में पढ़ने वाले विद्यार्थियों की कुल संख्या का विवरण दर्शाता है। कुल विद्यार्थियों की संख्या 5000 है।

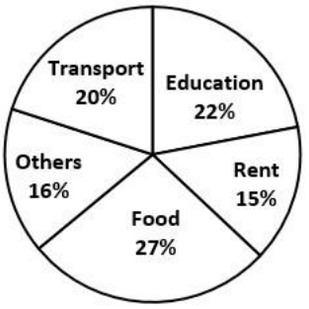


यदि शाखा B में 30% विद्यार्थी लड़के हैं, और शाखा D में 40% विद्यार्थी लड़कियाँ हैं, तो शाखा B में लड़कियों की संख्या का शाखा D में लड़कियों की संख्या से अनुपात कितना है? [अपना उत्तर a/b रूप में दें।]

Ans
✗ 1. $\frac{8}{15}$
✗ 2. $\frac{6}{17}$
✗ 3. $\frac{5}{16}$
✓ 4. $\frac{7}{16}$

Question ID : 630680399203
Option 1 ID : 6306801556762
Option 2 ID : 6306801556761
Option 3 ID : 6306801556759
Option 4 ID : 6306801556760
Status : Answered
Chosen Option : 4

Q.2 The following pie chart shows the monthly expenditure of a family. Study the pie chart and answer the question that follows.

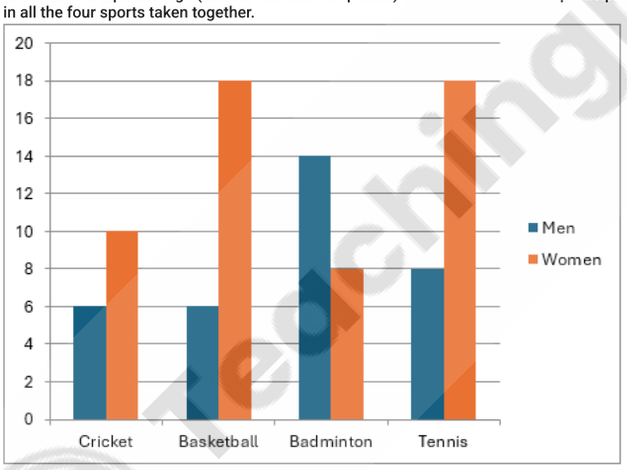


The central angle of the sector for the expenditure on rent (in °) is:

Ans
✗ 1. 57.6°
✗ 2. 72°
✗ 3. 50.4°
✓ 4. 54°

Question ID : 630680399149
Option 1 ID : 6306801556556
Option 2 ID : 6306801556557
Option 3 ID : 6306801556554
Option 4 ID : 6306801556555
Status : Answered
Chosen Option : 4

Q.3 The following graph shows the numbers of men and women of a department of a college participating in four different sports. Find the number of women who participated in basketball as a percentage (correct to 2 decimal places) of the total number of participants in all the four sports taken together.



Ans
✗ 1. 24.31
✗ 2. 18.37
✓ 3. 20.45
✗ 4. 17.10

Question ID : 6306801148053
Option 1 ID : 6306804512312
Option 2 ID : 6306804512311
Option 3 ID : 6306804512310
Option 4 ID : 6306804512313
Status : Answered
Chosen Option : 3

Q.4 Study the following table and answer the questions based on it.
Expenditures of a Company (in Lakh Rupees) per Annum Over the given Years.

Year	Item of Expenditure				
	Salary	Fuel and Transport	Bonus	Interest on Loans	Taxes
2001	242	126	2.92	32.7	64
2002	284	56	4.36	20.1	78
2003	328	100	1.82	36.4	60
2004	326	58	2.37	26.2	80
2005	332	136	3.38	44.4	108

What is the average amount of interest (in Lakh Rupees) per year which the company had to pay during this period?

Ans
✗ 1. 25.21
✗ 2. 32.24
✓ 3. 31.96
✗ 4. 28.75

Question ID : **6306801148089**
Option 1 ID : **6306804512455**
Option 2 ID : **6306804512456**
Option 3 ID : **6306804512454**
Option 4 ID : **6306804512457**
Status : **Answered**
Chosen Option : **3**

Section : **Analytical Reasoning**

Q.1 Select the triad that follows the same pattern as that of the two triads given below. Both triads follow the same pattern.
PK-RM-TU
KF-MH-OP

Ans
✗ 1. GA-IC-KL
✗ 2. HA-JC-LO
✓ 3. GB-ID-KL
✗ 4. GA-JC-KO

Question ID : **630680452090**
Option 1 ID : **6306801765443**
Option 2 ID : **6306801765445**
Option 3 ID : **6306801765442**
Option 4 ID : **6306801765444**
Status : **Answered**
Chosen Option : **3**

Q.2 What should come in place of the question mark (?) in the given series?

411 422 432 441 449 ?

Ans
✗ 1. 453
✓ 2. 456
✗ 3. 455
✗ 4. 454

Question ID : **630680546686**
Option 1 ID : **6306802137310**
Option 2 ID : **6306802137313**
Option 3 ID : **6306802137312**
Option 4 ID : **6306802137311**
Status : **Answered**
Chosen Option : **2**

Q.3 How many meaningful three-letter English words can be formed using the third, fifth, and seventh letters of the word QUADRANTS (when counted from left to right) using all selected letters but each letter only once in each word?

Ans
✔ 1. One
✘ 2. Zero
✘ 3. Two
✘ 4. Three

Question ID : 630680151186
Option 1 ID : 630680584805
Option 2 ID : 630680584804
Option 3 ID : 630680584806
Option 4 ID : 630680584807
Status : Answered
Chosen Option : 1

Q.4 A group of numbers/symbols is coded using letter codes as per the codes given below and the conditions that follow. If none of the conditions apply, then codes for the respective number/symbol to be followed directly as given in the table.

Number/Symbol	7	2	5	@	8	%	&	^	3	9	*	4
Code	Q	T	H	N	J	L	F	E	S	C	B	A

Conditions:
(i) If the first element is a symbol and the last element a number, the codes for these two (the first and the last elements) are to be interchanged.
(ii) If the first element is an odd number and the last element an even number, the first and last elements are to be coded as ©.
(iii) If both second and third elements are perfect squares, the third element is to be coded as the code for the second element.

What will be the code for the following group?
^ 5 2 & 4

Ans
✔ 1. AHTFE
✘ 2. ETAFH
✘ 3. EHTFA
✘ 4. ATFHE

Question ID : 6306801015532
Option 1 ID : 6306803985702
Option 2 ID : 6306803985705
Option 3 ID : 6306803985703
Option 4 ID : 6306803985704
Status : Answered
Chosen Option : 1

Section : Logical Reasoning

Q.1 निम्नलिखित प्रश्न में दो कथन क्रमांक I और II दिए गए हैं। दोनों कथनों के बीच कारण और प्रभाव संबंध हो सकते हैं। ये दो कथन एक ही कारण या स्वतंत्र कारणों का प्रभाव हो सकते हैं। ये कथन बिना किसी संबंध के स्वतंत्र कारण हो सकते हैं। प्रत्येक प्रश्न में दोनों कथनों को पढ़िए और तदनुसार अपना उत्तर अंकित कीजिए।
I. 2021 में एवर गिवेन नाम का एक 400 m लंबा मालवाहक जहाज रास्ता भटक गया और संकरी स्वेज नहर में उसके किनारों के साथ खांचा बनाकर सटकर अटक गया।
II. 1956 में मिस्र के राष्ट्रपति ने स्वेज नहर के राष्ट्रीयकरण की घोषणा की।

Ans
✘ 1. कथन II कारण है और कथन I इसका प्रभाव है।
✘ 2. कथन I और II दोनों स्वतंत्र कारण हैं।
✘ 3. कथन I कारण है और कथन II इसका प्रभाव है।
✔ 4. कथन I और II दोनों स्वतंत्र कारणों के प्रभाव हैं।

Question ID : 630680128051
Option 1 ID : 630680496244
Option 2 ID : 630680496245
Option 3 ID : 630680496243
Option 4 ID : 630680496246
Status : Answered
Chosen Option : 2

Q.2 X, Y, Z, U, V और W एक ही इमारत के छह अलग-अलग तलों पर रहते हैं। इमारत में सबसे निचला तल 1 से क्रमांकित है, उसके ऊपर के तल का क्रमांक 2 है और इसी प्रकार आगे के तलों को क्रमांकित किया गया है, सबसे ऊपरी तल का क्रमांक 6 है। X किसी विषम संख्या वाले तल पर रहता है लेकिन तल संख्या 1 पर नहीं रहता है। X और Z के बीच केवल दो लोग रहते हैं।W, V के ऊपर किसी एक तल पर रहता है। U, Y के ठीक ऊपर रहता है। Y एक विषम संख्या वाले तल पर रहता है। Y, Z के ठीक ऊपर रहता है। V किस तल पर रहता है?

Ans
✗ 1. तल क्रमांक 6
✗ 2. तल क्रमांक 5
✓ 3. तल क्रमांक 1
✗ 4. तल क्रमांक 4

Question ID : 630680380504
Option 1 ID : 6306801483014
Option 2 ID : 6306801483013
Option 3 ID : 6306801483011
Option 4 ID : 6306801483012
Status : Answered
Chosen Option : 2

Q.3 A, B, C, P, Q, R और S किसी गोल मेज के परितः उसके केंद्र की ओर अभिमुख होकर बैठे हैं। A, C के दाएँ से दूसरे स्थान पर बैठा है। B, A के दाएँ से चौथे स्थान पर बैठा है। R, Q के ठीक बाएँ बैठा है। P और Q के बीच केवल एक व्यक्ति बैठा है। P के बाएँ से गिनने पर P और C के बीच कितने लोग बैठे हैं?

Ans
✗ 1. चार
✗ 2. तीन
✗ 3. एक
✓ 4. दो

Question ID : 630680367294
Option 1 ID : 6306801430644
Option 2 ID : 6306801430643
Option 3 ID : 6306801430641
Option 4 ID : 6306801430642
Status : Answered
Chosen Option : 1

Q.4 Refer to the following letter, symbol series and answer the question. Counting to be done from left to right only.
(Left) A S F E R D N ? H M @ X M / A R G + K (Right)
How many such symbols are there each of which is immediately preceded by a consonant and also immediately followed by a letter?

Ans
✗ 1. Three
✓ 2. Four
✗ 3. Two
✗ 4. One

Question ID : 6306801015512
Option 1 ID : 6306803985628
Option 2 ID : 6306803985629
Option 3 ID : 6306803985627
Option 4 ID : 6306803985626
Status : Answered
Chosen Option : 2

Section : Simple English

Q.1 Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the right order to form a meaningful and coherent paragraph.

A. Furthermore, creativity often involves taking risks and stepping into the unknown.
B. Creativity is not just about generating new ideas but also about executing them effectively.
C. Many believe that creativity is an innate talent, but it can be nurtured and developed.
D. This process requires not only inspiration but also discipline and perseverance.

Ans
✗ 1. A, C, B, D
✗ 2. B, A, C, D
✓ 3. C, B, D, A
✗ 4. C, D, A, B

Question ID : 6306801030469
Option 1 ID : 6306804044630
Option 2 ID : 6306804044632
Option 3 ID : 6306804044629
Option 4 ID : 6306804044631
Status : Not Answered
Chosen Option : --

Q.2 Select the most appropriate ANTONYM of the word highlighted in bold in the given sentence.

The enigmatic smile of the Mona Lisa has puzzled art historians for centuries.

Ans
✔ 1. Explicable
✘ 2. Unimaginable
✘ 3. Mysterious
✘ 4. Obscure

Question ID : 6306801030474
Option 1 ID : 6306804044647
Option 2 ID : 6306804044646
Option 3 ID : 6306804044645
Option 4 ID : 6306804044648
Status : Not Answered
Chosen Option : --

Q.3 Select the most appropriate option to fill in the blank.

They explored _____ Amazon rainforest.

Ans
✘ 1. No article needed
✔ 2. the
✘ 3. a
✘ 4. an

Question ID : 6306801030437
Option 1 ID : 6306804044499
Option 2 ID : 6306804044500
Option 3 ID : 6306804044502
Option 4 ID : 6306804044501
Status : Answered
Chosen Option : 2

Q.4 Select the most appropriate option to fill in the blank.
The disappointed parents asked the doctor, "Can you cure him _____ his disease?"

Ans
✘ 1. with
✔ 2. of
✘ 3. on
✘ 4. from

Question ID : 630680145367
Option 1 ID : 630680562442
Option 2 ID : 630680562443
Option 3 ID : 630680562445
Option 4 ID : 630680562444
Status : Answered
Chosen Option : 4

Section : Technical Part Civil Engineering

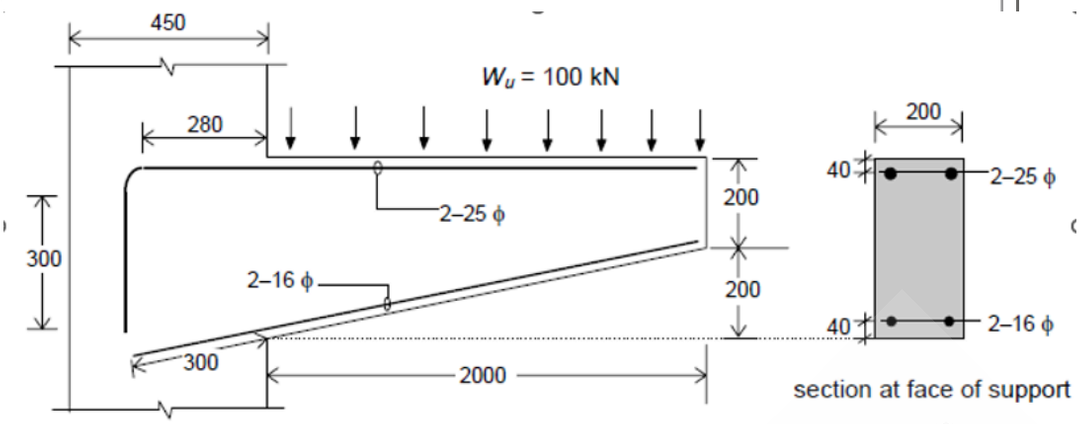
Q.1 Which of the following statements is correct?

Statement 1: Adhesives have advantages over rivets and bolts by distributing stress over larger areas of a joint.
Statement 2: Adhesive doesn't lose stability at high temperatures and resistance to peeling is good.

Ans
✘ 1. Statements 1 and 2 are correct but Statement 2 is not the explanation of Statement 1.
✘ 2. Statement 1 is not correct but Statement 2 is correct.
✘ 3. Statements 1 and 2 are correct and Statement 2 is the explanation of Statement 1.
✔ 4. Statement 1 is correct but Statement 2 is not correct.

Question ID : 6306801107314
Option 1 ID : 6306804349714
Option 2 ID : 6306804349715
Option 3 ID : 6306804349717
Option 4 ID : 6306804349716
Status : Answered
Chosen Option : 2

Q 2. Calculate the development length in the zone of tension of cantilever beam shown in the figure. Use the grade of steel Fe415, gr τ_{bd} = 1.2Mpa.



Ans
✗ 1. 752 mm
✗ 2. 3256 mm
✗ 3. 2256 mm
✓ 4. 1175 mm

Question ID
Option 1 ID
Option 2 ID
Option 3 ID
Option 4 ID
Status
Chosen Option

Q. 3 What is the formula for the maximum deflection (δ_{max}) of a simply supported beam with a point load P applied at the centre?

Ans
✗ 1. $\delta_{max} = \frac{PL^2}{2EI}$
✓ 2. $\delta_{max} = \frac{PL^3}{48EI}$
✗ 3. $\delta_{max} = \frac{PL^3}{3EI}$
✗ 4. $\delta_{max} = \frac{PL^3}{16EI}$

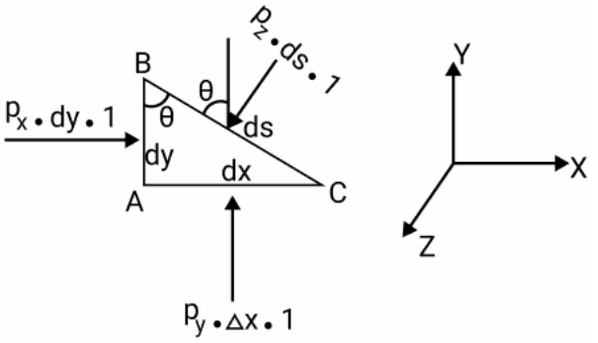
Question ID : 6306801096687
Option 1 ID : 6306804308048
Option 2 ID : 6306804308050
Option 3 ID : 6306804308049
Option 4 ID : 6306804308051
Status : Answered
Chosen Option : 3

Q.4 In composite materials, the performance of glass fibers can be affected by the size and distribution of their surface coatings. Which of the following is the primary purpose of these coatings in enhancing the interface between glass fibres and the resin matrix?

Ans
✗ 1. To reduce the specific gravity of the composite
✓ 2. To improve the adhesion between the glass fibres and the resin
✗ 3. To increase the thermal conductivity of the composite
✗ 4. To lower the glass transition temperature of the resin

Question ID : 6306801107348
Option 1 ID : 6306804349850
Option 2 ID : 6306804349852
Option 3 ID : 6306804349851
Option 4 ID : 6306804349853
Status : Not Answered
Chosen Option : --

Q.5 **In the application of Pascal's law for a static fluid element shown in the Figure, the pressure balance in the x-direction was derived by considering which of the following relationships between the forces acting on the element?**



Ans
✔ 1. $px.dy.1 - pz.ds.1.\cos\theta = 0$
✘ 2. $px.dy.1 - px.ds.1.\sin\theta = 0$
✘ 3. $px.dy.1 - px.dx.1 = 0$
✘ 4. $px.dy.1 - px.dx.1.\cos\theta = 0$

Question ID : 6306801096992
Option 1 ID : 6306804309234
Option 2 ID : 6306804309235
Option 3 ID : 6306804309232
Option 4 ID : 6306804309233
Status : Answered
Chosen Option : 2

Q.6 In the design of an axially loaded battened column according to IS 800, which of the following considerations is crucial for ensuring the stability and strength of the column under axial load?

Ans
✔ 1. The interaction between local and overall buckling
✘ 2. The type of welding for battens
✘ 3. Paint colour for corrosion protection
✘ 4. The use of thermal expansion steel

Question ID : 6306801109645
Option 1 ID : 6306804359287
Option 2 ID : 6306804359286
Option 3 ID : 6306804359284
Option 4 ID : 6306804359285
Status : Answered
Chosen Option : 1

Q.7 Which of the following factors is primarily considered when determining the length of a transition curve in geomatics engineering?

Ans
✘ 1. The width of the road
✘ 2. The type of terrain
✔ 3. Vehicle speed and the allowable rate of change of centrifugal acceleration
✘ 4. The radius of the circular curve

Question ID : 6306801107430
Option 1 ID : 6306804350180
Option 2 ID : 6306804350181
Option 3 ID : 6306804350179
Option 4 ID : 6306804350178
Status : Answered
Chosen Option : 3

Q.8 For a two-way simply supported slab with a span of 3 m and a live load of 2.0 kN/m², IS 456:2000 provides the criteria for determining the overall slab thickness (D) based on deflection and strength considerations. The slab is made of M20 grade concrete and Fe415 steel. The criteria for calculating the slab thickness (overall depth, D) is:

Ans
1. ≥ Lx / 28
2. ≥ Lx / 40
3. ≥ Lx / 55
4. ≥ Lx / 35

Question ID : 6306801102183
Option 1 ID : 6306804329971
Option 2 ID : 6306804329970
Option 3 ID : 6306804329972
Option 4 ID : 6306804329969
Status : Answered
Chosen Option : 1

Q.9 The minimum width of a solid casing is _____, where 'b_0 ' is the width of the steel flange of the column. (IS: 800–1984)

Ans
1. b_0 + 150 mm
2. b_0 + 100 mm
3. b_0 + 50 mm
4. b_0 + 200 mm

Question ID : 630680160942
Option 1 ID : 630680623134
Option 2 ID : 630680623132
Option 3 ID : 630680623133
Option 4 ID : 630680623135
Status : Not Answered
Chosen Option : --

Q.10 According to Terzaghi's filter design criteria, which of the following conditions must be satisfied to prevent the migration of fines from the protected soil into the filter?
Where:
D15 (filter): Particle size in the filter for which 15% of the material is finer.
D85 (protected soil): Particle size in the protected soil for which 85% of the material is finer.

Ans
1. $\frac{D_{85}\ (filter)}{D_{15}\ (protected\ material)} > 5$
2. $\frac{D_{15}\ (filter)}{D_{85}\ (protected\ material)} < 5$
3. $\frac{D_{15}\ (filter)}{D_{85}\ (protected\ material)} > 5$
4. $4 > \frac{D_{15}\ (filter)}{D_{85}\ (protected\ material)} > 20$

Question ID : 630680114713
Option 1 ID : 630680444221
Option 2 ID : 630680444218
Option 3 ID : 630680444219
Option 4 ID : 630680444220
Status : Answered
Chosen Option : 4

Q.11 In prestressed concrete, _____ strength concrete and _____ tensile steel is advisable to use.

Ans
1. low, low
2. high, high
3. high, low
4. low, high

Question ID : 6306801102193
Option 1 ID : 6306804330009
Option 2 ID : 6306804330011
Option 3 ID : 6306804330012
Option 4 ID : 6306804330010
Status : Answered
Chosen Option : 2

Q.12 When analysing the rate for brick masonry in cement mortar, which factor is most critical in determining the labour rate?

Ans
✔ 1. Availability of skilled labour
✘ 2. Cost of materials
✘ 3. Duration of the project
✘ 4. Weather conditions

Question ID : 6306801109734
Option 1 ID : 6306804359681
Option 2 ID : 6306804359680
Option 3 ID : 6306804359682
Option 4 ID : 6306804359683
Status : Answered
Chosen Option : 1

Q.13 A cantilever of length 6 m carries a gradually varying load that varies from zero at the free end to 3 kN/m at the fixed end. What is the magnitude of the maximum bending moment in the cantilever?

Ans
✘ 1. −20 kNm
✔ 2. −18 kNm
✘ 3. −12 kNm
✘ 4. −15 kNm

Question ID : 6306801087443
Option 1 ID : 6306804270997
Option 2 ID : 6306804270996
Option 3 ID : 6306804270994
Option 4 ID : 6306804270995
Status : Answered
Chosen Option : 2

Q.14 When calculating the tensile strength of a steel member, which factor is subtracted from the gross sectional area to determine the net sectional area?

Ans
✘ 1. The type of steel used
✘ 2. The length of member
✔ 3. The diameter of bolt holes
✘ 4. The thickness of member

Question ID : 6306801109651
Option 1 ID : 6306804359311
Option 2 ID : 6306804359308
Option 3 ID : 6306804359309
Option 4 ID : 6306804359310
Status : Answered
Chosen Option : 3

Q.15 According to Euler's column theory, which of the following end conditions results in the highest critical load for a column?

Ans
✘ 1. Both ends are hinged.
✘ 2. One end is fixed and the other is free.
✘ 3. One end is fixed and the other is hinged.
✔ 4. Both ends are fixed.

Question ID : 6306801096742
Option 1 ID : 6306804308260
Option 2 ID : 6306804308263
Option 3 ID : 6306804308262
Option 4 ID : 6306804308261
Status : Answered
Chosen Option : 4

Q.16 Calculate the minimum and maximum area of reinforcement for column according to IS 456:2000 for 500 mm × 600 mm of cross-section of column.

Ans
✗ 1. 2700, 12000 mm^2
✓ 2. 2400, 12000 mm^2
✗ 3. 3000, 15000 mm^2
✗ 4. 4500, 9000 mm^2

Question ID : 6306801102175
Option 1 ID : 6306804329938
Option 2 ID : 6306804329939
Option 3 ID : 6306804329937
Option 4 ID : 6306804329940
Status : Marked For Review
Chosen Option : 2

Q.17 What is the net return in the context of property valuation?

Ans
✗ 1. Market value of the property
✗ 2. Total cost of the property
✗ 3. Depreciation value of the property
✓ 4. Gross income minus operating expenses

Question ID : 6306801109738
Option 1 ID : 6306804359698
Option 2 ID : 6306804359697
Option 3 ID : 6306804359699
Option 4 ID : 6306804359696
Status : Answered
Chosen Option : 4

Q.18 What do the contour lines on a topographic map represent?

Ans
✓ 1. Imaginary line on the ground joining the points of equal elevation
✗ 2. Vegetation types
✗ 3. Imaginary line on the ground joining the points of different elevation at the same position
✗ 4. Political boundaries

Question ID : 630680908333
Option 1 ID : 6306803558406
Option 2 ID : 6306803558405
Option 3 ID : 6306803558407
Option 4 ID : 6306803558404
Status : Answered
Chosen Option : 1

Q.19 A turnout is designated as right-hand turnout depending upon whether:

Ans
✗ 1. the turnout is situated on the right side of the railway station
✗ 2. the turnout is assembled on the right side of the cabin
✓ 3. the traffic is diverted on the right side
✗ 4. the traffic is diverted on the left side

Question ID : 630680114846
Option 1 ID : 630680444750
Option 2 ID : 630680444752
Option 3 ID : 630680444753
Option 4 ID : 630680444751
Status : Answered
Chosen Option : 3

Q.20 Which of the following is a key characteristic of natural construction materials like stone and timber?

Ans
✓ 1. Environmentally sustainable and renewable
✗ 2. Uniform material properties
✗ 3. High resistance to corrosion
✗ 4. Requires extensive processing before use

Question ID : 6306801107338
Option 1 ID : 6306804349812
Option 2 ID : 6306804349813
Option 3 ID : 6306804349810
Option 4 ID : 6306804349811
Status : Answered
Chosen Option : 4

Q.21 In the case of very slender column, failure may occur due to _____, rather than due to _____ failure. The slenderness limits defined in the code specifies that, the ratio of unsupported length (l) to the least lateral dimension(d) of a column should not exceed a value of ____.

Ans
✗ 1. material, instability, 60
✗ 2. material, instability, 30
✗ 3. instability, material, 30
✓ 4. instability, material, 60

Question ID : 6306801102172
Option 1 ID : 6306804329926
Option 2 ID : 6306804329928
Option 3 ID : 6306804329927
Option 4 ID : 6306804329925
Status : Answered
Chosen Option : 4

Q.22 As per IS 9451, what is the recommended value of minimum thickness of cohesive non swelling soil layer to be used for lining of canals over expansive soil subgrades with swelling pressure of 150-300 kN/m^2? Take water carrying capacity of canals as more than 2 cumecs.

Ans
✗ 1. 100 cm
✓ 2. 85 cm
✗ 3. More than 125 cm
✗ 4. 50 cm

Question ID : 630680144460
Option 1 ID : 630680558908
Option 2 ID : 630680558907
Option 3 ID : 630680558909
Option 4 ID : 630680558906
Status : Not Answered
Chosen Option : --

Q.23 In the Hardy Cross Method for flow in pipe networks, the correction factor ΔQ for the flow is calculated as follows:

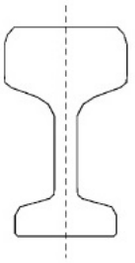
$$\Delta Q = -\frac{\sum rQ_0^n}{\sum mQ_0^{n-1}}$$

For turbulent flow, where n = 2, which of the following expressions correctly represents the correction factor?

Ans
✓ 1. $\Delta Q = -\frac{\sum rQ_0^2}{\sum r2Q_0}$
✗ 2. $\Delta Q = -\frac{\sum rQ_0^4}{\sum r4Q_0^3}$
✗ 3. $\Delta Q = -\frac{\sum rQ_0^1}{\sum r2Q_0}$
✗ 4. $\Delta Q = -\frac{\sum rQ_0^3}{\sum r3Q_0^2}$

Question ID : 6306801097018
Option 1 ID : 6306804309338
Option 2 ID : 6306804309339
Option 3 ID : 6306804309337
Option 4 ID : 6306804309336
Status : Not Answered
Chosen Option : --

Q.24 Identify the type of rail section (The head is larger than the feet, and the feet hold the wooden keys that hold the rails in place) shown in the figure.



Ans
✔ 1. Bull headed rail
✘ 2. Double headed rail
✘ 3. Narrow-footed rail
✘ 4. Flat-footed rail

Question ID : 630680114841
Option 1 ID : 630680444731
Option 2 ID : 630680444730
Option 3 ID : 630680444732
Option 4 ID : 630680444733
Status : Answered
Chosen Option : 1

Q.25 Which of the following is a primary use of contour maps made in surveying?

Ans
✘ 1. Determining weather patterns
✘ 2. Analysing seismic activity
✔ 3. Computing Earth work for roads and canals
✘ 4. Monitoring ocean currents

Question ID : 630680908378
Option 1 ID : 6306803558586
Option 2 ID : 6306803558589
Option 3 ID : 6306803558588
Option 4 ID : 6306803558587
Status : Answered
Chosen Option : 3

Q.26 The setting time of the Plaster of Paris is delayed by adding the retardant with which of the following ingredients?

Ans
✔ 1. Glue
✘ 2. Clay
✘ 3. Hydrated time
✘ 4. Cattle hair

Question ID : 6306801107323
Option 1 ID : 6306804349752
Option 2 ID : 6306804349750
Option 3 ID : 6306804349753
Option 4 ID : 6306804349751
Status : Answered
Chosen Option : 2

Q.27 Which of the following conditions is/are true?
A. The design and execution of the flood control scheme is chiefly governed by the peak flood levels, which in turn depend upon scour and deposition of sediment.
B. Silting of reservoirs and rivers is another important aspect of sediment transport.
C. Natural rivers required for navigation are frequently silted up, reducing the clear depth required for navigation.

Ans
✘ 1. A and B
✘ 2. B and C
✘ 3. A and C
✔ 4. A, B and C

Question ID : 630680111647
Option 1 ID : 630680432323
Option 2 ID : 630680432322
Option 3 ID : 630680432324
Option 4 ID : 630680432325
Status : Answered
Chosen Option : 1

Q.28 Which of the following is NOT a limitation of the working stress method in the design of steel structures?

Ans
✗ 1. It does not account for the plastic behaviour of materials.
✓ 2. It considers the ultimate strength of materials.
✗ 3. It does not adequately address serviceability requirements.
✗ 4. It often leads to heavier and more conservative designs.

Question ID : 6306801109661
Option 1 ID : 6306804359372
Option 2 ID : 6306804359374
Option 3 ID : 6306804359375
Option 4 ID : 6306804359373
Status : Answered
Chosen Option : 1

Q.29 What is the primary purpose of standard specifications in construction projects?

Ans
✗ 1. To minimise labour requirements
✗ 2. To speed up the construction process
✗ 3. To reduce the cost of materials
✓ 4. To ensure uniform quality and performance

Question ID : 6306801109735
Option 1 ID : 6306804359687
Option 2 ID : 6306804359686
Option 3 ID : 6306804359684
Option 4 ID : 6306804359685
Status : Answered
Chosen Option : 4

Q.30 What happens when an eccentric load is applied to a column?

Ans
✓ 1. It causes both direct and bending stresses in the column.
✗ 2. It does not cause any stresses in the column.
✗ 3. It causes only bending stress in the column.
✗ 4. It causes only direct stress in the column.

Question ID : 6306801096754
Option 1 ID : 6306804308306
Option 2 ID : 6306804308307
Option 3 ID : 6306804308305
Option 4 ID : 6306804308304
Status : Answered
Chosen Option : 1

Q.31 Which of the following is a primary importance of quantity surveying in construction projects?

Ans
✗ 1. To design the structural elements of the building
✗ 2. To supervise the construction workers
✓ 3. To manage and control project costs
✗ 4. To ensure the aesthetic appeal of the building

Question ID : 6306801109721
Option 1 ID : 6306804359634
Option 2 ID : 6306804359635
Option 3 ID : 6306804359633
Option 4 ID : 6306804359632
Status : Answered
Chosen Option : 3

Q.32 The overall length of a turnout is the distance between the end of stock rail and_____.

Ans
✓ 1. heel of crossing
✗ 2. toe of crossing
✗ 3. actual nose of crossing
✗ 4. throat of crossing

Question ID : 630680114847
Option 1 ID : 630680444756
Option 2 ID : 630680444754
Option 3 ID : 630680444755
Option 4 ID : 630680444757
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.33 Consider the following statements with respect to silt theories, and select the correct option.
Statement A: Kennedy assumed that silt is kept in suspension because of eddies generated from the bed only.
Statement B: Lacey's theory as applied to channel design does not involve any trial and error procedure.

Ans
✔ 1. Both statements are correct
✘ 2. Both statements are incorrect
✘ 3. Statement B is correct and A is incorrect
✘ 4. Statement A is correct and B is incorrect

Question ID : 630680144448
Option 1 ID : 630680558860
Option 2 ID : 630680558861
Option 3 ID : 630680558859
Option 4 ID : 630680558858
Status : Answered
Chosen Option : 1

Q.34 What is the primary cause of uplift pressure beneath a hydraulic structure?

Ans
✘ 1. The type of vegetation around the structure
✘ 2. The weight of the structure
✔ 3. The flow of water through the soil beneath the structure
✘ 4. The temperature of the water

Question ID : 6306801109630
Option 1 ID : 6306804359211
Option 2 ID : 6306804359208
Option 3 ID : 6306804359209
Option 4 ID : 6306804359210
Status : Answered
Chosen Option : 3

Q.35 In the working stress analysis of the reinforced concrete section, the composite section transforms into an equivalent concrete section termed a modular ratio and the value of the modular ratio for M30 is:

Ans
✔ 1. 10.98
✘ 2. 13.33
✘ 3. 8.11
✘ 4. 9.33

Question ID : 6306801102195
Option 1 ID : 6306804330019
Option 2 ID : 6306804330020
Option 3 ID : 6306804330017
Option 4 ID : 6306804330018
Status : Answered
Chosen Option : 4

Q.36 For simply supported beam, the basic values of span to effective depth ratios for spans up to 10m is:

Ans
✔ 1. 20
✘ 2. 15
✘ 3. 26
✘ 4. 6

Question ID : 6306801102163
Option 1 ID : 6306804329889
Option 2 ID : 6306804329892
Option 3 ID : 6306804329890
Option 4 ID : 6306804329891
Status : Answered
Chosen Option : 1

Q.37 The structures of the timber are visible at a small magnification and great magnification known as _____ and _____, respectively.

Ans
✗ 1. macrostructure, macrostructure
✓ 2. macrostructure, microstructure
✗ 3. microstructure, microstructure
✗ 4. microstructure, macrostructure

Question ID : 6306801107305
Option 1 ID : 6306804349680
Option 2 ID : 6306804349681
Option 3 ID : 6306804349679
Option 4 ID : 6306804349678
Status : Answered
Chosen Option : 4

Q.38 Which of the following factors is most critical in determining the performance of a secondary clarifier in a wastewater treatment plant?

Ans
✓ 1. Hydraulic loading rate
✗ 2. Dissolved oxygen concentration
✗ 3. Influent temperature
✗ 4. pH of the influent

Question ID : 6306801107385
Option 1 ID : 6306804349999
Option 2 ID : 6306804350001
Option 3 ID : 6306804349998
Option 4 ID : 6306804350000
Status : Answered
Chosen Option : 1

Q.39 Which of the following is NOT typically used for the structural evaluation of flexible pavements?

Ans
✓ 1. Ultrasonic Pulse Velocity (UPV)
✗ 2. Ground-Penetrating Radar (GPR)
✗ 3. Falling Weight Deflectometer (FWD)
✗ 4. Benkelman Beam Deflection Method

Question ID : 6306801109712
Option 1 ID : 6306804359603
Option 2 ID : 6306804359602
Option 3 ID : 6306804359600
Option 4 ID : 6306804359601
Status : Answered
Chosen Option : 1

Q.40 With reference to air pollutants, RSPM stands for ____.

Ans
✓ 1. respirable suspended particulate matter
✗ 2. respirable soluble particulate matter
✗ 3. resisting suspended particulate matter
✗ 4. rational suspended particulate matter

Question ID : 630680774543
Option 1 ID : 6306803036051
Option 2 ID : 6306803036053
Option 3 ID : 6306803036054
Option 4 ID : 6306803036052
Status : Answered
Chosen Option : 1

Q.41 Which of the following specifications is correct with respect to engineer's chain used in chain surveying?

Ans
✔ 1. It is 100 ft long, consisting of 100 links.
✘ 2. It is 50 ft long, consisting of 50 links.
✘ 3. It is 50 ft long, consisting of 100 links.
✘ 4. It is 100 ft long, consisting of 50 links.

Question ID : 630680908799
Option 1 ID : 6306803560250
Option 2 ID : 6306803560251
Option 3 ID : 6306803560252
Option 4 ID : 6306803560253
Status : Answered
Chosen Option : 1

Q.42 Which of the following phenomena primarily causes the reduction in the load-carrying capacity of a steel column under axial compression?

Ans
✘ 1. Fatigue
✘ 2. Creep
✔ 3. Buckling
✘ 4. Yielding

Question ID : 6306801107367
Option 1 ID : 6306804349929
Option 2 ID : 6306804349928
Option 3 ID : 6306804349926
Option 4 ID : 6306804349927
Status : Answered
Chosen Option : 2

Q.43 A pitched roof truss is inclined at 25° to the horizontal. As per the provisions of IS: 875 (Part 2) - 1987, the value of imposed load on the plan area of the roof truss to be considered for the design of purlins will be _____.

Ans
✘ 1. 0.25 kN/m^2
✔ 2. 0.45 kN/m^2
✘ 3. 1.2 kN/m^2
✘ 4. 0.75 kN/m^2

Question ID : 630680315896
Option 1 ID : 6306801229260
Option 2 ID : 6306801229259
Option 3 ID : 6306801229257
Option 4 ID : 6306801229258
Status : Answered
Chosen Option : 4

Q.44 A rigid pavement slab is 5-m long and 3.5-m wide. The temperature differential between the top and bottom of the slab is 20°C. The coefficient of thermal expansion of concrete is (1.2 × 10^{-5} \/°C). Calculate the thermal stress induced in the slab if it is fully restrained. Assume the modulus of elasticity of concrete is 30 GPa.

Ans
✘ 1. 8.0 MPa
✔ 2. 7.2 MPa
✘ 3. 6.8 MPa
✘ 4. 5.4 MPa

Question ID : 6306801109693
Option 1 ID : 6306804359535
Option 2 ID : 6306804359534
Option 3 ID : 6306804359533
Option 4 ID : 6306804359532
Status : Not Answered
Chosen Option : --

Q.45 Which of the following is a primary function of fine aggregate in concrete?

Ans
✗ 1. To accelerate the curing process of the concrete
✗ 2. To provide bulk and reduce shrinkage
✓ 3. To improve the workability and fill gaps between coarse aggregates
✗ 4. To increase the thermal conductivity of the mix

Question ID : 6306801107353
Option 1 ID : 6306804349873
Option 2 ID : 6306804349872
Option 3 ID : 6306804349870
Option 4 ID : 6306804349871
Status : Answered
Chosen Option : 3

Q.46 A soil deposit has three layers having same thickness each but the permeability of the layers is in the ratio of 1 : 2 : 3 from top to bottom. What is the ratio of average permeability in the horizontal direction to that in the vertical direction?

Ans
✗ 1. 11 : 18
✗ 2. 24 : 18
✗ 3. 18 : 11
✓ 4. 11 : 9

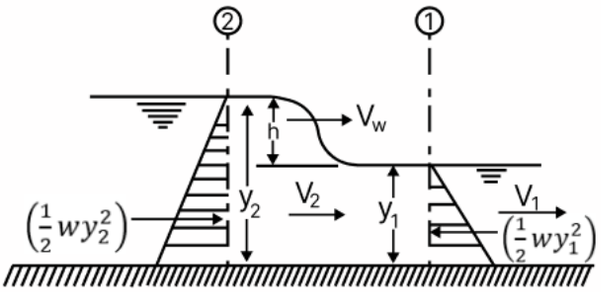
Question ID : 630680114702
Option 1 ID : 630680444174
Option 2 ID : 630680444175
Option 3 ID : 630680444176
Option 4 ID : 630680444177
Status : Answered
Chosen Option : 4

Q.47 If the sand contains carbonate minerals, it is highly likely that the effective angle of shearing resistance at very high stresses will decrease because of:

Ans
✗ 1. decrease in pore water pressure
✗ 2. rearrangement of particles
✗ 3. increase in pore water pressure
✓ 4. crushing of sand particles

Question ID : 630680114742
Option 1 ID : 630680444336
Option 2 ID : 630680444337
Option 3 ID : 630680444334
Option 4 ID : 630680444335
Status : Answered
Chosen Option : 3

Q.48 **From the positive surge (Type A) in a rectangular channel, which of the following equations correctly represents the relationship among the initial velocity V_2, final velocity V_1, and the depths y_1 and y_2 of the surge as shown in the image?**



Ans

✗ 1. $(V_1 - V_2)^2 = (y_1 + y_2)\dfrac{(y_1 + y_2)g}{y_1 y_2}$

✗ 2. $(V_1 + V_2)^2 = (y_1 + y_2)^2\dfrac{(y_1 - y_2)g}{2y_1 y_2}$

✗ 3. $(V_1 + V_2)^2 = (y_1 + y_2)^2\dfrac{(y_1 + y_2)g}{2y_1 y_2}$

✓ 4. $(V_1 - V_2)^2 = (y_1 - y_2)^2\dfrac{(y_1 + y_2)g}{2y_1 y_2}$

Question ID : **6306801097070**
Option 1 ID : **6306804309547**
Option 2 ID : **6306804309546**
Option 3 ID : **6306804309545**
Option 4 ID : **6306804309544**
Status : **Not Answered**
Chosen Option : **--**

Q.49 **Match the following terms with their correct definitions.**

Column A	Column B
1. Magnetic Meridian	A. The angle between the magnetic meridian and the true meridian
2. True Meridian	B. The line connecting the geographic north and south poles
3. Magnetic Declination	C. The line indicated by a freely suspended magnetic needle
4. Isogonic Line	D. A line on a map connecting points of equal magnetic declination

Ans

✗ 1. 1-D, 2-C, 3-B, 4-A

✓ 2. 1-C, 2-B, 3-A, 4-D

✗ 3. 1-D, 2-B, 3-C, 4-A

✗ 4. 1-C, 2-A, 3-B, 4-D

Question ID : **6306801107419**
Option 1 ID : **6306804350137**
Option 2 ID : **6306804350136**
Option 3 ID : **6306804350135**
Option 4 ID : **6306804350134**
Status : **Answered**
Chosen Option : **2**

Q.50 Water is the greatest threat to a railway track, and the most prominent factor that adversely affects track maintenance is improper drainage.
Consider the following statements related to effect of poor drainage in railway tracks.
Assertion (A): Bearing capacity of embankment reduces due to increase in moisture content of soil.
Reason (R): The percolation of water into the embankment reduces its resilience to shear.

Ans
✗ 1. A is true but R is false.
✗ 2. Both A and R are true but R is not the correct explanation of A.
✓ 3. Both A and R are true and R is the correct explanation of A.
✗ 4. A is false but R is true.

Question ID : **630680114844**
Option 1 ID : **630680444744**
Option 2 ID : **630680444743**
Option 3 ID : **630680444742**
Option 4 ID : **630680444745**
Status : **Answered**
Chosen Option : **3**

Q.51 Gibbs module is a _____ type outlet, used in water distributing channels.

Ans
✓ 1. rigid module
✗ 2. flexible module
✗ 3. non-modular module
✗ 4. semi-module

Question ID : **630680144477**
Option 1 ID : **630680558974**
Option 2 ID : **630680558975**
Option 3 ID : **630680558976**
Option 4 ID : **630680558977**
Status : **Answered**
Chosen Option : **1**

Q.52 An electrostatic precipitator is to be constructed for removal of fly ash particles. If the collection efficiency is to be increased from 90% to 99%, what will be the change in area of plate required for the precipitator? Take the value of ln 10 = 2.30.

Ans
✓ 1. Area of plate to be increased by 100%
✗ 2. Area of plate to be decreased by 50%
✗ 3. Area of plate to be increased by 50%
✗ 4. Area of plate to be increased by 10%

Question ID : **630680773362**
Option 1 ID : **6306803031371**
Option 2 ID : **6306803031372**
Option 3 ID : **6306803031370**
Option 4 ID : **6306803031369**
Status : **Not Answered**
Chosen Option : **--**

Q.53 The reason for providing high water training is:

Ans
✗ 1. to control the sedimentation during HFL
✗ 2. to provide sufficient water depth in the channel during low water flow
✓ 3. to control the flood in the river during HFL by constructing dykes and levees
✗ 4. to make the adjacent area flood proof by constructing the channels

Question ID : **630680144940**
Option 1 ID : **630680560801**
Option 2 ID : **630680560800**
Option 3 ID : **630680560799**
Option 4 ID : **630680560798**
Status : **Answered**
Chosen Option : **3**

Q.54 Railway stations serving places of tourist interest and having very significant tourist traffic and junction stations comes under which of the following categories?

Ans
✔ 1. Category B
✘ 2. Category C
✘ 3. Category D
✘ 4. Category A

Question ID : 63068065661
Option 1 ID : 630680253599
Option 2 ID : 630680253600
Option 3 ID : 630680253601
Option 4 ID : 630680253598
Status : Answered
Chosen Option : 4

Q.55 Which of the following reasons suits for the following statement?
Statement: Non-modular outlets are frequently laid on a light concrete foundation.

Ans
✘ 1. To maintain velocity head at the exit
✔ 2. To prevent uneven settlement and consequent leakage
✘ 3. To increase the height of outlet so that head of water is increased
✘ 4. To prevent frictional loss

Question ID : 630680144469
Option 1 ID : 630680558945
Option 2 ID : 630680558943
Option 3 ID : 630680558944
Option 4 ID : 630680558942
Status : Answered
Chosen Option : 2

Q.56 Which of the following is a key advantage of using PVC (Polyvinyl Chloride) in construction?

Ans
✘ 1. High thermal conductivity
✘ 2. Limited versatility in applications
✘ 3. High susceptibility to corrosion
✔ 4. Low cost and ease of installation

Question ID : 6306801107328
Option 1 ID : 6306804349772
Option 2 ID : 6306804349773
Option 3 ID : 6306804349771
Option 4 ID : 6306804349770
Status : Answered
Chosen Option : 1

Q.57 Given a concrete beam with an initial length of 3 metres is subjected to a sustained load, causing it to undergo creep. If the creep strain after 10 years is observed to be 0.0012 (dimensionless) and the modulus of elasticity of the concrete is 30 GPa, what is the approximate increase in length of the beam due to creep?

Ans
✔ 1. 3.6 mm
✘ 2. 7.2 mm
✘ 3. 1.20 mm
✘ 4. 1.44 mm

Question ID : 6306801107358
Option 1 ID : 6306804349890
Option 2 ID : 6306804349892
Option 3 ID : 6306804349891
Option 4 ID : 6306804349893
Status : Not Answered
Chosen Option : --

Q.58 Which of the following is NOT a primary function of a subsurface drainage system in highway engineering?

Ans
✗ 1. To divert surface runoff away from the pavement
✗ 2. To prevent water from reaching the subgrade
✗ 3. To reduce the pore water pressure in the subgrade
✓ 4. To increase the load-bearing capacity of the pavement

Question ID : 6306801109711
Option 1 ID : 6306804359599
Option 2 ID : 6306804359596
Option 3 ID : 6306804359597
Option 4 ID : 6306804359598
Status : Answered
Chosen Option : 4

Q.59 Which of the following microorganisms is commonly used as an indicator of fecal contamination in water?

Ans
✗ 1. Bacillus subtilis
✓ 2. Escherichia coli
✗ 3. Staphylococcus aureus
✗ 4. Pseudomonas aeruginosa

Question ID : 6306801107378
Option 1 ID : 6306804349971
Option 2 ID : 6306804349973
Option 3 ID : 6306804349970
Option 4 ID : 6306804349972
Status : Answered
Chosen Option : 2

Q.60 In the context of fluid mechanics, the bulk modulus is particularly important when analysing:

Ans
✗ 1. the flow of a incompressible fluid through a narrow pipe
✗ 2. the behaviour of a fluid under high-speed turbulent flow
✗ 3. the variation in fluid density at extremely low temperatures
✓ 4. the change in volume of a fluid under compression

Question ID : 6306801096771
Option 1 ID : 6306804308368
Option 2 ID : 6306804308369
Option 3 ID : 6306804308370
Option 4 ID : 6306804308371
Status : Answered
Chosen Option : 4

Q.61 Which of the following criteria is primarily used to classify fine-grained soils in the Indian Standard Soil Classification System (ISSCS)?

Ans
✓ 1. Grain size distribution and plasticity index
✗ 2. Specific gravity and permeability
✗ 3. Compaction characteristics and shear strength
✗ 4. Organic content and moisture content

Question ID : 6306801109622
Option 1 ID : 6306804359176
Option 2 ID : 6306804359178
Option 3 ID : 6306804359179
Option 4 ID : 6306804359177
Status : Answered
Chosen Option : 1

Q.62 In a pitched roof truss, which of the following factors does NOT significantly affect the pitch of the truss?

Ans
✗ 1. Span of the truss
✗ 2. Height of the building
✓ 3. Material of the truss members
✗ 4. Load distribution

Question ID : 6306801109659
Option 1 ID : 6306804359364
Option 2 ID : 6306804359367
Option 3 ID : 6306804359366
Option 4 ID : 6306804359365
Status : Answered
Chosen Option : 2

Q.63 Which of the following statements correctly describes a characteristic of a hydraulic jump?
1. A hydraulic jump results in significant energy dissipation through turbulence.
2. The flow depth increases after the hydraulic jump as the flow transitions from supercritical to subcritical.
3. The depth of the flow decreases after the hydraulic jump.

Ans
✓ 1. Only statements 1 and 2 are correct.
✗ 2. Only statement 1 is correct.
✗ 3. Only statement 3 is correct.
✗ 4. All statements are correct.

Question ID : 6306801097042
Option 1 ID : 6306804309433
Option 2 ID : 6306804309432
Option 3 ID : 6306804309434
Option 4 ID : 6306804309435
Status : Answered
Chosen Option : 2

Q.64 Which of the following methods is commonly used for taking out measurements in quantity surveying?

Ans
✗ 1. Simpson's method
✓ 2. Long wall-short wall method
✗ 3. Trapezoidal method
✗ 4. Cross-sectional method

Question ID : 6306801109731
Option 1 ID : 6306804359671
Option 2 ID : 6306804359668
Option 3 ID : 6306804359670
Option 4 ID : 6306804359669
Status : Answered
Chosen Option : 1

Q.65 An Invar Precision Staff is primarily used for ____.

Ans
✗ 1. determining soil types
✓ 2. high-precision levelling work
✗ 3. angular measurements
✗ 4. measuring horizontal distances

Question ID : 630680908369
Option 1 ID : 6306803558550
Option 2 ID : 6306803558553
Option 3 ID : 6306803558552
Option 4 ID : 6306803558551
Status : Answered
Chosen Option : 2

Q.66 The methods of repairing the structural cracks in cement concrete pavements may be grouped into three categories, i.e.i) crack stitching ii) partial depth repairs and iii) full depth repairs
Match the methods of repairing the structural cracks in CC pavements with selection factor

Method	Selection factor
A. Crack stitching	1. Carried out to rectify defects limited to small areas about $1m^2$
B. Partial depth repairs	2. Removal of the effected portion of CC pavement slab
C. Full depth repairs	3. Repairing cracks that are in reasonably good condition

Ans
✗ 1. A - 3, B - 2, C - 1
✗ 2. A - 2, B - 1, C - 3
✓ 3. A - 3, B - 1, C - 2
✗ 4. A - 1, B - 3, C - 2

Question ID : 630680114800
Option 1 ID : 630680444568
Option 2 ID : 630680444569
Option 3 ID : 630680444566
Option 4 ID : 630680444567
Status : Answered
Chosen Option : 1

Q.67 How can the presence of a high hydraulic gradient lead to soil instability and increased seepage force?

Ans
✗ 1. Increases soil's strength
✗ 2. Increases soil's compaction, resisting erosion
✓ 3. Reduces effective stress, causing piping or heaving
✗ 4. Decreases pore water pressure, stabilising the soil

Question ID : 6306801109639
Option 1 ID : 6306804359252
Option 2 ID : 6306804359254
Option 3 ID : 6306804359253
Option 4 ID : 6306804359255
Status : Answered
Chosen Option : 3

Q.68 As per the provisions of IS: 800-2007, which of the following statements about tension stiffeners of a plate girder is correct?

Ans
✗ 1. A tension stiffener should be designed to carry the applied shear or reaction.
✓ 2. When materials of the web and the stiffener are of different strengths, the lesser value should be used to calculate the capacity of the stiffener.
✗ 3. The stiffeners required to resist tension should be connected to the flange transmitting the load by using intermittent welds.
✗ 4. A tension stiffener is provided to transmit tensile forces applied to the flange of the plate girder.

Question ID : 630680219875
Option 1 ID : 630680853380
Option 2 ID : 630680853382
Option 3 ID : 630680853381
Option 4 ID : 630680853379
Status : Answered
Chosen Option : 4

Q.69 In the context of the vane shear test, which of the following factors primarily affect the accuracy of the measured undrained shear strength of soft clay soil?

Ans
✗ 1. Water table depth and organic content of the soil
✓ 2. Vane diameter and rotation rate
✗ 3. Temperature and vegetation type
✗ 4. Specific gravity of soil particles and compaction effort

Question ID : 6306801109634
Option 1 ID : 6306804359234
Option 2 ID : 6306804359235
Option 3 ID : 6306804359232
Option 4 ID : 6306804359233
Status : Answered
Chosen Option : 2

Q.70 In the preparation of a schedule of rates, which of the following factors is the most challenging to accurately estimate due to its variability over time?

Ans
✗ 1. Equipment depreciation
✗ 2. Labour productivity
✗ 3. Overhead charges
✓ 4. Material costs

Question ID : 6306801109722
Option 1 ID : 6306804359639
Option 2 ID : 6306804359637
Option 3 ID : 6306804359638
Option 4 ID : 6306804359636
Status : Answered
Chosen Option : 2

Q.71 Which of the following is NOT a primary objective of engineering surveys for highway alignment?

Ans
✗ 1. Ensuring minimal environmental impact
✗ 2. Determining the most economical route
✓ 3. Maximising the length of the highway
✗ 4. Providing data for detailed design

Question ID : 6306801109686
Option 1 ID : 6306804359505
Option 2 ID : 6306804359504
Option 3 ID : 6306804359506
Option 4 ID : 6306804359507
Status : Answered
Chosen Option : 3

Q.72 Net Positive Suction Head (NPSH) is defined as the difference between the absolute pressure head at the inlet of the pump and the vapor pressure head. What does this definition ensure in pump operation?

Ans
✗ 1. It ensures the pump operates without backflow.
✓ 2. It ensures the pump operates without cavitation.
✗ 3. It ensures the pump operates at constant velocity.
✗ 4. It ensures the pump operates at a constant flow rate.

Question ID : 6306801097091
Option 1 ID : 6306804309628
Option 2 ID : 6306804309629
Option 3 ID : 6306804309631
Option 4 ID : 6306804309630
Status : Answered
Chosen Option : 2

Q.73 A cantilever beam of length l is carrying a point load W at the free end. The area of the bending moment diagram is $\frac{Wl^2}{2}$. What is the distance of the centre of gravity of the bending moment diagram from the free end of the beam?

Ans
✓ 1. $\frac{2l}{3}$
✗ 2. $\frac{3l}{2}$
✗ 3. $\frac{l}{2}$
✗ 4. $\frac{l}{3}$

Question ID : 6306801096715
Option 1 ID : 6306804308157
Option 2 ID : 6306804308159
Option 3 ID : 6306804308156
Option 4 ID : 6306804308158
Status : Answered
Chosen Option : 1

Q.74 Which of the following factors is most influential in determining the generation rate of municipal solid waste in urban areas?

Ans
✔ 1. Economic status
✘ 2. Industrial activity
✘ 3. Climate conditions
✘ 4. Population density

Question ID : **6306801107395**
Option 1 ID : **6306804350041**
Option 2 ID : **6306804350039**
Option 3 ID : **6306804350040**
Option 4 ID : **6306804350038**
Status : **Answered**
Chosen Option : **2**

Q.75 Match the following list-1 with list-2, and select the correct answer.

List-1	List-2
A. Drier	1. Iron oxide
B. Thinner	2. Aluminium silicate
C. Pigment	3. Zinc sulphate
D. Extender	4. Turpentine

Ans
✘ 1. A-4, B-2, C-3, D-1
✘ 2. A-2, B-4, C-1, D-3
✘ 3. A-1, B-4, C-2, D-3
✔ 4. A-3, B-4, C-1, D-2

Question ID : **6306801107303**
Option 1 ID : **6306804349673**
Option 2 ID : **6306804349671**
Option 3 ID : **6306804349672**
Option 4 ID : **6306804349670**
Status : **Answered**
Chosen Option : **2**

Q.76 Which of the following properties of structural steel is most affected by the presence of carbon?

Ans
✘ 1. Ductility
✘ 2. Thermal conductivity
✔ 3. Hardness
✘ 4. Electrical conductivity

Question ID : **6306801107371**
Option 1 ID : **6306804349942**
Option 2 ID : **6306804349944**
Option 3 ID : **6306804349943**
Option 4 ID : **6306804349945**
Status : **Answered**
Chosen Option : **1**

Q.77 Slabs are categorised into one-way slab and two-way slab depending on the support of the load. One-way slabs are those in which most of the load is _____.

Ans
✔ 1. carried on the shorter span
✘ 2. carried on the half of the longer span
✘ 3. equally divided on both the span
✘ 4. carried on the longer span

Question ID : **6306801102187**
Option 1 ID : **6306804329986**
Option 2 ID : **6306804329988**
Option 3 ID : **6306804329987**
Option 4 ID : **6306804329985**
Status : **Answered**
Chosen Option : **1**

Q.78 Which of the following flow measurement devices is most suitable for measuring the flow rate in a large diameter water distribution pipeline?

Ans
✗ 1. Rotameter
✗ 2. Orifice plate
✗ 3. Pitot tube
✓ 4. Venturi meter

Question ID : **6306801107401**
Option 1 ID : **6306804350065**
Option 2 ID : **6306804350062**
Option 3 ID : **6306804350063**
Option 4 ID : **6306804350064**
Status : **Answered**
Chosen Option : **4**

Q.79 What is the standard size of a brick used in brick masonry in cement mortar?

Ans
✓ 1. 190 mm × 90 mm × 90 mm
✗ 2. 240 mm × 115 mm × 90 mm
✗ 3. 200 mm × 100 mm × 100 mm
✗ 4. 230 mm × 110 mm × 75 mm

Question ID : **6306801109733**
Option 1 ID : **6306804359676**
Option 2 ID : **6306804359679**
Option 3 ID : **6306804359677**
Option 4 ID : **6306804359678**
Status : **Answered**
Chosen Option : **1**

Q.80 Hydraulic turbines can be classified based on several criteria. Which of the following classifications is based on the direction of flow through the runner?

Ans
✗ 1. High head turbine and Low head turbine
✗ 2. Low specific speed turbine and High specific speed turbine
✗ 3. Impulse turbine and Reaction turbine
✓ 4. Tangential flow turbine and Radial flow turbine

Question ID : **6306801096792**
Option 1 ID : **6306804308449**
Option 2 ID : **6306804308451**
Option 3 ID : **6306804308448**
Option 4 ID : **6306804308450**
Status : **Answered**
Chosen Option : **4**

Q.81 Match the following methods with their correct descriptions for correcting cumulative angular errors in a closed traverse:

Column A	Column B
1. Bowditch's Rule	A. Distributes the total error proportionally to the lengths of the traverse legs
2. Transit Rule	B. Distributes the total error proportionally to the latitudes and departures of the traverse legs
3. Crandall's Rule	C. Uses a least squares approach to minimize the sum of the squares of the errors
4. Least Squares Adjustment	D. Distributes the total error based on the square root of the lengths of the traverse legs

Ans
✗ 1. 1-A, 2-B, 3-C, 4-D
✗ 2. 1-B, 2-A, 3-D, 4-C
✗ 3. 1-B, 2-A, 3-C, 4-D
✓ 4. 1-A, 2-B, 3-D, 4-C

Question ID : **6306801107424**
Option 1 ID : **6306804350155**
Option 2 ID : **6306804350157**
Option 3 ID : **6306804350156**
Option 4 ID : **6306804350154**
Status : **Answered**
Chosen Option : **2**

Q.82 What is the primary factor that influences the shear buckling resistance of the web in a plate girder?

Ans
✗ 1. The length of the girder
✓ 2. The thickness of the web
✗ 3. The type of welding used
✗ 4. The width of the flange plates

Question ID : 6306801109657
Option 1 ID : 6306804359349
Option 2 ID : 6306804359348
Option 3 ID : 6306804359350
Option 4 ID : 6306804359351
Status : Answered
Chosen Option : 2

Q.83 Which type of weir typically forms a hydraulic jump downstream to dissipate energy?

Ans
✗ 1. Rock-fill weir with sloping apron
✗ 2. Masonry weir with vertical drop
✗ 3. Concrete weir with horizontal apron
✓ 4. Concrete weir with sloping downstream glacis

Question ID : 630680145227
Option 1 ID : 630680561891
Option 2 ID : 630680561890
Option 3 ID : 630680561893
Option 4 ID : 630680561892
Status : Answered
Chosen Option : 4

Q.84 Match the following.

Column A (Terms)	Column B (Definitions)
A. Coefficient of Consolidation ((C_v))	1. The time required for a specific degree of consolidation to occur
B. Primary Consolidation	2. The process of volume decrease in a saturated soil due to expulsion of water
C. Time Factor ((T_v))	3. The rate at which consolidation occurs, influenced by soil permeability and compressibility
D. Drainage Path Length ((H))	4. The distance water must travel to escape from the soil during consolidation

Ans
✓ 1. A-3, B-2, C-1, D-4
✗ 2. A-2, B-3, C-1, D-4
✗ 3. A-3, B-2, C-4, D-1
✗ 4. A-2, B-3, C-4, D-1

Question ID : 6306801109625
Option 1 ID : 6306804359189
Option 2 ID : 6306804359191
Option 3 ID : 6306804359188
Option 4 ID : 6306804359190
Status : Answered
Chosen Option : 1

Q.85 Consider the following statements regarding the design and operation of a Venturi meter and select the correct option.

1) The divergent cone has a total included angle between 5° to 15° and is longer than the convergent cone.
2) The length of the throat is equal to the diameter of the inlet section.

Ans
✗ 1. Both statements 1 and 2 are correct.
✗ 2. Both statements 1 and 2 are incorrect.
✓ 3. Only statement 1 is correct.
✗ 4. Only statement 2 is correct.

Question ID : 6306801097080
Option 1 ID : 6306804309586
Option 2 ID : 6306804309587
Option 3 ID : 6306804309584
Option 4 ID : 6306804309585
Status : Answered
Chosen Option : 3

Q.86 The design strength of concrete and reinforcing of steel is calculated using the characteristic strength by appropriate partial safety factor. For ultimate limit state, the partial safety factor for concrete and reinforcing steel are:

Ans
✔ 1. 1.5 and 1.15
✘ 2. 1.15 and 1
✘ 3. 1.15 and 1.5
✘ 4. 1 and 1.5

Question ID : **6306801102190**
Option 1 ID : **6306804330000**
Option 2 ID : **6306804329997**
Option 3 ID : **6306804329999**
Option 4 ID : **6306804329998**
Status : **Answered**
Chosen Option : **1**

Q.87 In the limit state design of steel structures, which combination of factors is most critical in assessing the vibration limit to ensure serviceability under dynamic loading conditions?

Ans
✘ 1. The live load, the dead load and the temperature variations
✔ 2. The mass distribution, the natural frequency and the damping ratio
✘ 3. The wind load, the colour of the paint and the foundation type
✘ 4. The type of steel, the thickness of the members and the height of the structure

Question ID : **6306801109654**
Option 1 ID : **6306804359331**
Option 2 ID : **6306804359330**
Option 3 ID : **6306804359328**
Option 4 ID : **6306804359329**
Status : **Answered**
Chosen Option : **1**

Q.88 For a cantilever beam of length L subjected to a uniformly distributed load (UDL) of intensity w (N/m) over its entire length, what is the bending moment at the fixed support?

Ans
✘ 1. $M = \frac{wL^2}{4}$
✘ 2. $M = \frac{wL^3}{2}$
✘ 3. $M = \frac{wL^2}{8}$
✔ 4. $M = \frac{wL^2}{2}$

Question ID : **6306801096634**
Option 1 ID : **6306804307838**
Option 2 ID : **6306804307839**
Option 3 ID : **6306804307837**
Option 4 ID : **6306804307836**
Status : **Answered**
Chosen Option : **4**

Q.89 Which of the following is true in a series configuration of two shafts?

Ans
✘ 1. The angle of twist is different for each shaft.
✔ 2. Both shafts experience the same torque.
✘ 3. The applied torque is divided between the shafts.
✘ 4. Both shafts experience different torques.

Question ID : **6306801095779**
Option 1 ID : **6306804304444**
Option 2 ID : **6306804304442**
Option 3 ID : **6306804304443**
Option 4 ID : **6306804304441**
Status : **Answered**
Chosen Option : **4**

Q.90 The main difference between the fixed hair method and the subtense method is that in subtense method _____.

Ans
✗ 1. stadia interval is constant
✗ 2. the maximum distance covered is 50 m only
✓ 3. stadia interval is variable
✗ 4. both multiplying and additive constants are 100

Question ID : 630680909120
Option 1 ID : 6306803561487
Option 2 ID : 6306803561488
Option 3 ID : 6306803561486
Option 4 ID : 6306803561489
Status : Answered
Chosen Option : 1

Q.91 With regards to the theory of pure torsion, which of the following assumptions is/are correct?

1. The material is assumed to be homogeneous and isotropic.
2. The stresses are proportional to shear strain within the elastic limit.
3. Cross-sections undergo warping under the action of a torsional moment.
4. The twist along the shaft is uniform.

Ans
✓ 1. Only 1, 2 and 4
✗ 2. Only 1 and 2
✗ 3. Only 3
✗ 4. 1, 2, 3 and 4

Question ID : 6306801096731
Option 1 ID : 6306804308221
Option 2 ID : 6306804308220
Option 3 ID : 6306804308222
Option 4 ID : 6306804308223
Status : Answered
Chosen Option : 1

Q.92 What happens at the point of contra flexure in an overhanging beam?

Ans
✓ 1. The bending moment changes sign.
✗ 2. The shear force is zero.
✗ 3. The bending moment is maximum.
✗ 4. The beam becomes unstable.

Question ID : 6306801087453
Option 1 ID : 6306804271036
Option 2 ID : 6306804271035
Option 3 ID : 6306804271034
Option 4 ID : 6306804271037
Status : Answered
Chosen Option : 1

Q.93 With respect to self cleansing of environment, identify the correct statements from the following.
1. Stack height determination is based on Stoke's Plume Model.
2. Stack height determination is based on Gaussian Plume Model.
3. Stacks help in cleaning the air naturally by dispersion.
4. Stacks help in cleaning the air artificially by gravity settling.

Ans
✗ 1. 1 and 4
✗ 2. 2 and 4
✓ 3. 2 and 3
✗ 4. 1 and 3

Question ID : 630680774532
Option 1 ID : 6306803036014
Option 2 ID : 6306803036012
Option 3 ID : 6306803036011
Option 4 ID : 6306803036013
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.94 When estimating the quantity of stonework for a complex structure with varying wall thicknesses, which of the following methods is most suitable for ensuring accurate measurements?

Ans
✔ 1. Long wall-short wall method
✘ 2. Cross-sectional method
✘ 3. Trapezoidal method
✘ 4. Centreline method

Question ID : 6306801109732
Option 1 ID : 6306804359674
Option 2 ID : 6306804359673
Option 3 ID : 6306804359672
Option 4 ID : 6306804359675
Status : Answered
Chosen Option : 1

Q.95 What characterises steady and unsteady flow?

Ans
✘ 1. Steady changes with time and location, unsteady remains constant
✘ 2. Steady changes with location, unsteady changes with time
✔ 3. Steady remains constant with time, unsteady changes with time
✘ 4. Steady changes with time, unsteady remains constant

Question ID : 6306801096778
Option 1 ID : 6306804308399
Option 2 ID : 6306804308396
Option 3 ID : 6306804308398
Option 4 ID : 6306804308397
Status : Answered
Chosen Option : 3

Q.96 Which of the following is considered a primary benefit of using thermal insulation materials in construction?

Ans
✔ 1. Enhanced energy efficiency by reducing heat transfer
✘ 2. Improved resistance to moisture and fire
✘ 3. Reduced sound transmission within building interiors
✘ 4. Increased structural strength of buildings

Question ID : 6306801107332
Option 1 ID : 6306804349789
Option 2 ID : 6306804349786
Option 3 ID : 6306804349788
Option 4 ID : 6306804349787
Status : Answered
Chosen Option : 3

Q.97 Which method of valuation is most suitable for estimating the value of a property that generates regular income?

Ans
✔ 1. Income Capitalisation Method
✘ 2. Comparative Method
✘ 3. Cost Approach Method
✘ 4. Market Value Method

Question ID : 6306801109736
Option 1 ID : 6306804359689
Option 2 ID : 6306804359691
Option 3 ID : 6306804359690
Option 4 ID : 6306804359688
Status : Answered
Chosen Option : 3

Q.98 Which of the following methods is commonly used for the defluorination of drinking water in India?

Ans
✗ 1. Ion exchange
✗ 2. Reverse osmosis
✗ 3. Activated carbon filtration
✓ 4. Nalgonda Technique

Question ID : 6306801107389
Option 1 ID : 6306804350014
Option 2 ID : 6306804350015
Option 3 ID : 6306804350017
Option 4 ID : 6306804350016
Status : Answered
Chosen Option : 4

Q.99 Which of the following steps is allowed in the case of the rise and fall method used in levelling?

Ans
✗ 1. Back sight readings are taken.
✓ 2. The height of the instrument is not computed.
✗ 3. Fore sight readings are taken.
✗ 4. The reduced level of each point is computed.

Question ID : 630680908368
Option 1 ID : 6306803558549
Option 2 ID : 6306803558548
Option 3 ID : 6306803558547
Option 4 ID : 6306803558546
Status : Answered
Chosen Option : 4

Q.100 Which of the following materials is NOT used to produce paper?

Ans
✓ 1. Plastics
✗ 2. Agro-pulp
✗ 3. Wood pulp (Forest)
✗ 4. Old paper

Question ID : 630680775150
Option 1 ID : 6306803038464
Option 2 ID : 6306803038466
Option 3 ID : 6306803038467
Option 4 ID : 6306803038465
Status : Answered
Chosen Option : 1

Section : Technical Part Mechanical Engineering

Q.1 Helical springs, which are composed of a wire wound in a helix shape, are primarily intended for _____.

Ans
✗ 1. helical torsion loads
✓ 2. compressive or tensile loads
✗ 3. zero loads
✗ 4. disc loads

Question ID : 6306801103261
Option 1 ID : 6306804333958
Option 2 ID : 6306804333956
Option 3 ID : 6306804333957
Option 4 ID : 6306804333959
Status : Not Answered
Chosen Option : --

Q.2 According to Joule's law in thermodynamics, the total internal energy of perfect gas is a function of absolute _____ only.

Ans
✔ 1. temperature
✘ 2. pressure
✘ 3. volume
✘ 4. entropy

Question ID : **6306801089639**
Option 1 ID : **6306804279827**
Option 2 ID : **6306804279826**
Option 3 ID : **6306804279828**
Option 4 ID : **6306804279829**
Status : **Not Answered**
Chosen Option : --

Q.3 Steady Flow Energy Equation (S.F.E.E.) can be expressed as _____ where
Q = Heat supplied (or entering the boundary) per kg of fluid,
p = Pressure of the fluid,
W = Work done by (or work coming out of the boundary) 1 kg of fluid,
Z = Height above datum,
u = Internal energy per kg of fluid,
C = Velocity of fluid,
pv = Energy required for 1 kg of fluid.

Ans
✘ 1. $h1 + C_1^2/2 - Q = h2 + C_2^2/2 + W$
✔ 2. $h1 + C_1^2/2 + Q = h2 + C_2^2/2 + W$
✘ 3. $h1 + C1^2/2 + Q = h_2 + C_2^2/2 - W$
✘ 4. $h_1 + C_1^2/2 + Q = h_2$

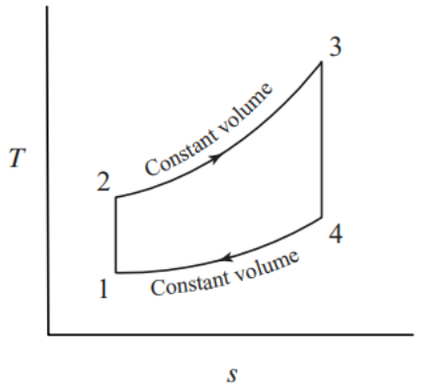
Question ID : **6306801105557**
Option 1 ID : **6306804342751**
Option 2 ID : **6306804342750**
Option 3 ID : **6306804342749**
Option 4 ID : **6306804342748**
Status : **Not Answered**
Chosen Option : --

Q.4 Which of the following methods of measurement of dryness fraction is the most suitable for accurate results?

Ans
✘ 1. Throttling calorimeter
✘ 2. Barrel calorimeter
✔ 3. Combined separating and throttling calorimeter
✘ 4. Separating calorimeter

Question ID : **630680625292**
Option 1 ID : **6306802447371**
Option 2 ID : **6306802447369**
Option 3 ID : **6306802447372**
Option 4 ID : **6306802447370**
Status : **Not Answered**
Chosen Option : --

Q.5 For the Otto cycle T-S diagram, the process 4→1 represents _____.



Ans
✗ 1. isentropic expansion
✗ 2. constant volume heat supplied
✓ 3. constant volume heat rejection
✗ 4. isentropic compression

Question ID : **6306801113846**
Option 1 ID : **6306804375842**
Option 2 ID : **6306804375841**
Option 3 ID : **6306804375840**
Option 4 ID : **6306804375843**
Status : **Not Answered**
Chosen Option : --

Q.6 **Normal strain theory or maximum principal strain theory is also called as:**

Ans
✓ 1. Saint Venant's theory
✗ 2. Rankine's theory
✗ 3. Tresca's theory
✗ 4. Haigh's theory

Question ID : **6306801103280**
Option 1 ID : **6306804334034**
Option 2 ID : **6306804334032**
Option 3 ID : **6306804334033**
Option 4 ID : **6306804334035**
Status : **Not Answered**
Chosen Option : --

Q.7 **The coefficient of friction is of greater importance in design of bearings because it affords a means for determining the _____.**

Ans
✗ 1. loss of power due to shaft friction
✗ 2. loss of power due to brake and wheel friction
✓ 3. loss of power due to bearing friction
✗ 4. loss of power due to high lubrication

Question ID : **6306801100965**
Option 1 ID : **6306804325109**
Option 2 ID : **6306804325110**
Option 3 ID : **6306804325107**
Option 4 ID : **6306804325108**
Status : **Not Answered**
Chosen Option : --

Q.8 Which of the following is normally NOT included in external heat balance?

Ans
✗ 1. Heat carried by exhaust gases
✗ 2. Heat carried by crankcase and wall radiation
✗ 3. Heat carried by cooling water
✓ 4. Heat carried by lubricating oil

Question ID : 630680382397
Option 1 ID : 6306801490503
Option 2 ID : 6306801490506
Option 3 ID : 6306801490505
Option 4 ID : 6306801490504
Status : Not Answered
Chosen Option : --

Q.9 Which criteria is applicable, when a mechanism has only one joint with one degree of freedom and total movability of unity?

Ans
✗ 1. Quadric cyclic chain criteria
✓ 2. Grubler's criteria
✗ 3. Inversion of mechanism criteria
✗ 4. Four bar chain criteria

Question ID : 6306801100882
Option 1 ID : 6306804324794
Option 2 ID : 6306804324793
Option 3 ID : 6306804324791
Option 4 ID : 6306804324792
Status : Not Answered
Chosen Option : --

Q.10 Which of the following velocities is used for calculating the loss of head due to friction in viscous flow?

Ans
✓ 1. Average velocity
✗ 2. Maximum velocity
✗ 3. Zero velocity
✗ 4. Shear velocity

Question ID : 630680570724
Option 1 ID : 6306802231893
Option 2 ID : 6306802231894
Option 3 ID : 6306802231896
Option 4 ID : 6306802231895
Status : Not Answered
Chosen Option : --

Q.11 A _____ is one that can be applied without the need for an external force when the frictional force is enough to apply the brake.

Ans
✗ 1. simple band brake
✓ 2. self-locking brake
✗ 3. shoe brake
✗ 4. differential band brake

Question ID : 6306801100954
Option 1 ID : 6306804325064
Option 2 ID : 6306804325063
Option 3 ID : 6306804325065
Option 4 ID : 6306804325066
Status : Not Answered
Chosen Option : --

Q.12 When the axes of the driver and the follower are co-axial, then the gear train is called _____.

Ans
✗ 1. idle gear train
✓ 2. reverted gear train
✗ 3. epicyclic gear train
✗ 4. compound gear train

Question ID : 6306801100585
Option 1 ID : 6306804323625
Option 2 ID : 6306804323624
Option 3 ID : 6306804323626
Option 4 ID : 6306804323623
Status : Not Answered
Chosen Option : --

Q.13 The cylinder head and cylinder block are provided with _____ in the case of air cooling.

Ans
✗ 1. water jacket
✗ 2. cooling fan
✗ 3. air conditioner
✓ 4. cooling fins

Question ID : 630680588577
Option 1 ID : 6306802302784
Option 2 ID : 6306802302785
Option 3 ID : 6306802302786
Option 4 ID : 6306802302783
Status : Not Answered
Chosen Option : --

Q.14 Why is hydroelectric power considered more cost-effective than power generated from other sources like coal or oil?

Ans
✓ 1. Free water supply
✗ 2. High efficiency
✗ 3. Low setup cost
✗ 4. Simple maintenance

Question ID : 6306801090063
Option 1 ID : 6306804281422
Option 2 ID : 6306804281423
Option 3 ID : 6306804281425
Option 4 ID : 6306804281424
Status : Not Answered
Chosen Option : --

Q.15 A condenser of a refrigeration system rejects heat at a rate of 150 kW, while its compressor consumes a power of 30 kW. The COP of the system would be:

Ans
✓ 1. 4
✗ 2. 3
✗ 3. 2
✗ 4. 5

Question ID : 630680144882
Option 1 ID : 630680560568
Option 2 ID : 630680560567
Option 3 ID : 630680560566
Option 4 ID : 630680560569
Status : Not Answered
Chosen Option : --

Q.16 Find the dryness fraction of steam which has 1.6 kg of water mixed with 60 kg of steam.

Ans
✗ 1. 0.674
✗ 2. 0.874
✓ 3. 0.974
✗ 4. 0.574

Question ID : 6306801103656
Option 1 ID : 6306804335481
Option 2 ID : 6306804335480
Option 3 ID : 6306804335482
Option 4 ID : 6306804335483
Status : Not Answered
Chosen Option : --

Q.17 The approach where a certain amount of matter is considered without taking into account the processes that occurs at a molecular level. The approach is called _____.

Ans
✗ 1. microscopic approach
✓ 2. macroscopic approach
✗ 3. homogeneous approach
✗ 4. heterogeneous approach

Question ID : 6306801099669
Option 1 ID : 6306804319991
Option 2 ID : 6306804319993
Option 3 ID : 6306804319992
Option 4 ID : 6306804319994
Status : Not Answered
Chosen Option : --

Q.18 _____ is the air or gas compressor that is adopted to increase the total pressure of the already compressed gas/air.

Ans
✔ 1. Booster
✘ 2. Fins
✘ 3. Heat exchanger
✘ 4. Intercooler

Question ID : 6306801103484
Option 1 ID : 6306804334848
Option 2 ID : 6306804334851
Option 3 ID : 6306804334850
Option 4 ID : 6306804334849
Status : Not Answered
Chosen Option : --

Q.19 'Specific volume' is:

Ans
✘ 1. neither an extensive nor an intensive property
✘ 2. either an extensive or an intensive property
✔ 3. an intensive property only
✘ 4. an extensive property only

Question ID : 630680183259
Option 1 ID : 630680710108
Option 2 ID : 630680710107
Option 3 ID : 630680710106
Option 4 ID : 630680710105
Status : Not Answered
Chosen Option : --

Q.20 In their well-known porous plug experiment, Joule and Thompson (Lord Kelvin) examined a _____ that is commonly observed in practice.

Ans
✘ 1. electronic mechanism
✘ 2. lattice vibration mechanism
✔ 3. throttling mechanism
✘ 4. radiation mechanism

Question ID : 6306801099758
Option 1 ID : 6306804320320
Option 2 ID : 6306804320321
Option 3 ID : 6306804320319
Option 4 ID : 6306804320322
Status : Not Answered
Chosen Option : --

Q.21 The net heat supplied to the system is equal to the net work done by the system. This law is called:

Ans
✘ 1. Faraday's Law
✔ 2. Law of Conservation of Energy
✘ 3. Second Law of Thermodynamics
✘ 4. Law of Continuity Equation

Question ID : 6306801099719
Option 1 ID : 6306804320142
Option 2 ID : 6306804320139
Option 3 ID : 6306804320140
Option 4 ID : 6306804320141
Status : Not Answered
Chosen Option : --

Q.22 According to Joule's law of internal energy, the internal energy of a perfect gas is a function of _____ only.

Ans
✗ 1. internal energy
✓ 2. temperature
✗ 3. volume
✗ 4. pressure

Question ID : 6306801105981
Option 1 ID : 6306804344179
Option 2 ID : 6306804344177
Option 3 ID : 6306804344178
Option 4 ID : 6306804344176
Status : Not Answered
Chosen Option : --

Q.23 Which of the following equations represents the torsional rigidity (GJ) of a shaft?

Where T = Torque applied to the shaft, G = Shear modulus of the shaft material, J = Polar moment of inertia of the shaft cross-section, θ = Angle of twist in radians and L = Length of the shaft

Ans
✗ 1. $GJ = \frac{M/I}{(TL)}$
✗ 2. $GJ = T\theta L$
✗ 3. $GJ = \frac{TL}{EI}$
✓ 4. $GJ = \frac{T}{(\theta/L)}$

Question ID : 6306801096672
Option 1 ID : 6306804307989
Option 2 ID : 6306804307991
Option 3 ID : 6306804307990
Option 4 ID : 6306804307988
Status : Not Answered
Chosen Option : --

Q.24 Sliding contact bearings are also known as:

Ans
✓ 1. plain bearings
✗ 2. fitted bearings
✗ 3. ball bearings
✗ 4. clearance bearings

Question ID : 6306801100935
Option 1 ID : 6306804324987
Option 2 ID : 6306804324990
Option 3 ID : 6306804324988
Option 4 ID : 6306804324989
Status : Not Answered
Chosen Option : --

Q.25 Entropy is a function of the amount of heat, which shows the possibility of the conversion of ____.

Ans
✗ 1. There is no energy conversion.
✗ 2. work into heat
✗ 3. pressure into heat
✓ 4. heat into work

Question ID : 6306801099722
Option 1 ID : 6306804320162
Option 2 ID : 6306804320160
Option 3 ID : 6306804320161
Option 4 ID : 6306804320159
Status : Not Answered
Chosen Option : --

Q.26 The simple impulse turbine is called by this name because:

Ans
✔ 1. expansion of the steam takes place in one set of the nozzles
✘ 2. compression of the steam takes place in one set of the nozzles
✘ 3. expansion of the water takes place in one set of the nozzles
✘ 4. expansion of the steam takes place in multiple set of the nozzles

Question ID : **6306801105840**
Option 1 ID : **6306804343644**
Option 2 ID : **6306804343645**
Option 3 ID : **6306804343646**
Option 4 ID : **6306804343647**
Status : **Not Answered**
Chosen Option : --

Q.27 Which of the following symbols is used to identify the thermodynamic temperature?

Ans
✘ 1. kg
✘ 2. mol
✘ 3. cd
✔ 4. K

Question ID : **6306801099767**
Option 1 ID : **6306804320369**
Option 2 ID : **6306804320368**
Option 3 ID : **6306804320370**
Option 4 ID : **6306804320367**
Status : **Not Answered**
Chosen Option : --

Q.28 For a cam-follower mechanism to operate more dynamically, which of the following displacement diagrams should be used?

Ans
✘ 1. Dynamic motion
✘ 2. Parabolic motion
✘ 3. Simple hormonic motion
✔ 4. Cycloidal motion

Question ID : **6306801100018**
Option 1 ID : **6306804321394**
Option 2 ID : **6306804321392**
Option 3 ID : **6306804321391**
Option 4 ID : **6306804321393**
Status : **Not Answered**
Chosen Option : --

Q.29 In an impulse steam turbine, if the inlet blade angle of the rotor is less than 90^{o}, what is the relation between the tangential component of the absolute velocity (V_{w1}) and tangential blade velocity (U)?

Ans
✘ 1. $V_{w1}<U$
✘ 2. $V_{w1}=2U$
✔ 3. $V_{w1}>U$
✘ 4. $V_{w1}=U$

Question ID : **630680171078**
Option 1 ID : **630680662896**
Option 2 ID : **630680662899**
Option 3 ID : **630680662897**
Option 4 ID : **630680662898**
Status : **Not Answered**
Chosen Option : --

Q.30 For the flow of an oil through a pipe, the difference of mercury level in a differential U-tube manometer connected to the two tappings of the pitot-tube is 100 mm. The specific gravity of oil and mercury are 0.68 and 13.6, respectively. The differential of pressure head will be:

Ans
✗ 1. 0.8 m of oil
✓ 2. 1.9 m of oil
✗ 3. 2.7 m of oil
✗ 4. 3.5 m of oil

Question ID : 630680571350
Option 1 ID : 6306802234433
Option 2 ID : 6306802234434
Option 3 ID : 6306802234435
Option 4 ID : 6306802234436
Status : Not Answered
Chosen Option : --

Q.31 What is the type of friction induced between the surfaces which are in motion?

Ans
✗ 1. Sliding friction
✓ 2. Both sliding and kinetic friction
✗ 3. Static friction
✗ 4. Kinetic friction

Question ID : 630680139220
Option 1 ID : 630680538986
Option 2 ID : 630680538988
Option 3 ID : 630680538989
Option 4 ID : 630680538987
Status : Not Answered
Chosen Option : --

Q.32 Let 1 kg of gas at volume (v1),
absolute temperature (T1),
pressure (p1) and entropy (s1),
be heated such that its final pressure (p2), volume (v2), absolute temperature (T2) and entropy (s2). Then, by law of conservation of energy _____.

Where, dW = Small change of work done (pdv)
dQ = Small change of heat
du = Small internal energy

Ans
✓ 1. dQ = du + dW
✗ 2. dQ = du – dW
✗ 3. dQ = du * dW
✗ 4. dQ = du / dW

Question ID : 6306801105592
Option 1 ID : 6306804342890
Option 2 ID : 6306804342888
Option 3 ID : 6306804342889
Option 4 ID : 6306804342891
Status : Not Answered
Chosen Option : --

Q.33 A system and the surrounding together are called:

Ans
✓ 1. universe
✗ 2. subsystem
✗ 3. control surface
✗ 4. control volume

Question ID : 630680147612
Option 1 ID : 630680571186
Option 2 ID : 630680571187
Option 3 ID : 630680571188
Option 4 ID : 630680571189
Status : Not Answered
Chosen Option : --

Q.34 Thermal efficiency of regenerative cycle is:

Ans
✗ 1. same as simple Rankine cycle thermal efficiency

✗ 2. always less than simple Rankine cycle thermal efficiency

✓ 3. always greater than simple Rankine thermal efficiency

✗ 4. greater than simple Rankine cycle thermal efficiency only when steam is blended at a particular pressure

Question ID : **6306801099653**
Option 1 ID : **6306804319897**
Option 2 ID : **6306804319898**
Option 3 ID : **6306804319895**
Option 4 ID : **6306804319896**
Status : **Not Answered**
Chosen Option : --

Q.35 In a diesel engine, the combustion cycle/stage takes place at:

Ans
✗ 1. partly constant volume and partly constant temperature

✓ 2. constant pressure

✗ 3. constant volume

✗ 4. constant temperature

Question ID : **6306801099665**
Option 1 ID : **6306804319970**
Option 2 ID : **6306804319969**
Option 3 ID : **6306804319967**
Option 4 ID : **6306804319968**
Status : **Not Answered**
Chosen Option : --

Q.36 The gas turbine operates on the _____ cycle, which has a significantly lower efficiency than the Carnot cycle, which operates within the same temperature ranges.

Ans
✓ 1. Brayton

✗ 2. Carnot

✗ 3. Reversible Adiabatic

✗ 4. Steam

Question ID : **6306801099659**
Option 1 ID : **6306804319927**
Option 2 ID : **6306804319928**
Option 3 ID : **6306804319930**
Option 4 ID : **6306804319929**
Status : **Not Answered**
Chosen Option : --

Q.37 ____ is the amount of heat required to convert water into steam at a given temperature and pressure.

Ans
✗ 1. Superheated steam

✓ 2. Latent heat

✗ 3. Sensible heat of water

✗ 4. Dryness fraction

Question ID : **6306801099734**
Option 1 ID : **6306804320215**
Option 2 ID : **6306804320218**
Option 3 ID : **6306804320217**
Option 4 ID : **6306804320216**
Status : **Not Answered**
Chosen Option : --

Q.38 Up to which point in the stress-strain diagram of mild steel does the material return to its original shape when the load is removed?

Ans
✗ 1. Yield point
✗ 2. Proportional limit
✓ 3. Elastic limit
✗ 4. Plastic limit

Question ID : 6306801088796
Option 1 ID : 6306804276452
Option 2 ID : 6306804276450
Option 3 ID : 6306804276451
Option 4 ID : 6306804276453
Status : Not Answered
Chosen Option : --

Q.39 The COP of a refrigerator is _____, where Q = Heat transfer from cold reservoir and W = Net work transfer to the refrigerator.

Ans
✗ 1. (C.O.P.)ref. = Q/W + 1
✗ 2. (C.O.P.)ref. = Q/W − 1
✗ 3. (C.O.P.)ref. = W/Q
✓ 4. (C.O.P.)ref. = Q/W

Question ID : 6306801099725
Option 1 ID : 6306804320174
Option 2 ID : 6306804320172
Option 3 ID : 6306804320171
Option 4 ID : 6306804320173
Status : Not Answered
Chosen Option : --

Q.40 Two forces of magnitude 50N and 100N are acting at a point. The angle between the forces is 180°.The magnitude of resultant is ____N.

Ans
✓ 1. 50
✗ 2. 80
✗ 3. 55
✗ 4. 90

Question ID : 63068081404
Option 1 ID : 630680315649
Option 2 ID : 630680315648
Option 3 ID : 630680315650
Option 4 ID : 630680315651
Status : Not Answered
Chosen Option : --

Q.41 For the same compression ratio, same starting conditions at the compression stroke, and the same quantity of heat addition, the relationship between the thermal efficiencies of the Otto, Diesel, and Dual cycles is:

Ans
✗ 1. $\eta_{Diesel} > \eta_{Otto} > \eta_{Dual}$
✗ 2. $\eta_{Dual} > \eta_{Diesel} > \eta_{Otto}$
✗ 3. $\eta_{Dual} > \eta_{Otto} > \eta_{Dual}$
✓ 4. $\eta_{Otto} > \eta_{Dual} > \eta_{Diesel}$

Question ID : 630680116759
Option 1 ID : 630680452324
Option 2 ID : 630680452325
Option 3 ID : 630680452322
Option 4 ID : 630680452323
Status : Not Answered
Chosen Option : --

Q.42 In tropical countries, which of the following is responsible for an appreciable reduction in the mass output of the reciprocating compressor?

Ans
✗ 1. High barometer and high temperature
✗ 2. High barometer and low temperature
✗ 3. Low barometer and low temperature
✓ 4. Low barometer and high temperature

Question ID : 630680101192
Option 1 ID : 630680393290
Option 2 ID : 630680393291
Option 3 ID : 630680393289
Option 4 ID : 630680393288
Status : Not Answered
Chosen Option : --

Q.43 Ships are equipped with _____ to reduce wave action that causes rolling and pitching.

Ans
✗ 1. pendulums
✗ 2. bearings
✗ 3. turbines
✓ 4. gyroscopes

Question ID : 6306801100606
Option 1 ID : 6306804323706
Option 2 ID : 6306804323705
Option 3 ID : 6306804323703
Option 4 ID : 6306804323704
Status : Not Answered
Chosen Option : --

Q.44 At 1 atm pressure, the latent heat of fusion of water as compared to its latent heat of vaporisation is:

Ans
✗ 1. either higher or lower depending on the temperature
✗ 2. equal
✗ 3. higher
✓ 4. lower

Question ID : 630680183267
Option 1 ID : 630680710140
Option 2 ID : 630680710139
Option 3 ID : 630680710137
Option 4 ID : 630680710138
Status : Not Answered
Chosen Option : --

Q.45 The compressibility factor (Z) of any gas is a function of _____ and _____.

Ans
✗ 1. heat source and sink
✓ 2. temperature and pressure
✗ 3. volume and heat
✗ 4. water and air

Question ID : 6306801099750
Option 1 ID : 6306804320282
Option 2 ID : 6306804320280
Option 3 ID : 6306804320281
Option 4 ID : 6306804320279
Status : Not Answered
Chosen Option : --

Q.46 In a thin-walled cylindrical vessel subjected to internal pressure, the hoop strain is primarily dependent on which of the following parameters?

Ans
✗ 1. Axial stress, internal pressure, and Young's modulus
✗ 2. Cylinder length, internal pressure, and radial stress
✗ 3. Internal pressure, radial stress, and radial strain
✓ 4. Internal pressure, cylinder radius, and material properties

Question ID : 6306801096629
Option 1 ID : 6306804307816
Option 2 ID : 6306804307819
Option 3 ID : 6306804307817
Option 4 ID : 6306804307818
Status : Not Answered
Chosen Option : --

Q.47 In a reciprocating pump, slip is defined as the difference between the theoretical discharge and the actual discharge of the pump. Consider the following statements and select the correct option.
1. Slip can only be positive and occurs due to leakage.
2. Negative slip occurs when the actual discharge is greater than the theoretical discharge.
3. Slip is mostly expressed as a percentage of the theoretical discharge.
4. Negative slip occurs when the delivery pipe is short, suction pipe is long and the pump is running at high speed.

Ans
✗ 1. Statements 1 and 3 are correct.
✗ 2. Statements 3 and 4 are correct.
✓ 3. Statements 2 and 4 are correct.
✗ 4. Statements 2 and 3 are correct.

Question ID : **6306801090057**
Option 1 ID : **6306804281398**
Option 2 ID : **6306804281400**
Option 3 ID : **6306804281399**
Option 4 ID : **6306804281401**
Status : **Not Answered**
Chosen Option : --

Q.48 The co-efficient of performance (C.O.P.) of simple vapour absorption system is _____.

Ans
✗ 1. (Heat extracted from the evaporator) / (Heat supplied in the generator – Work done by the liquid pump)
✗ 2. (Heat extracted from the evaporator) / (Heat supplied in the generator + Work done by the air pump)
✓ 3. (Heat extracted from the evaporator) / (Heat supplied in the generator + Work done by the liquid pump)
✗ 4. (Heat extracted from the generator) / (Heat supplied in the evaporator+ Work done by the liquid pump)

Question ID : **6306801105751**
Option 1 ID : **6306804343377**
Option 2 ID : **6306804343379**
Option 3 ID : **6306804343376**
Option 4 ID : **6306804343378**
Status : **Not Answered**
Chosen Option : --

Q.49 The Total Dynamic Tooth Load (W_D) is _____, where W_T = Steady load due to transmitted torque and W_I = Increment load due to dynamic action.

Ans
✗ 1. $W_D = (W_T) \times (W_I)$
✗ 2. $W_D = W_T / W_I$
✗ 3. $W_D = W_T - W_I$
✓ 4. $W_D = W_T + W_I$

Question ID : **6306801103358**
Option 1 ID : **6306804334346**
Option 2 ID : **6306804334347**
Option 3 ID : **6306804334344**
Option 4 ID : **6306804334345**
Status : **Not Answered**
Chosen Option : --

Q.50 Which of the following effects is NOT caused due to the incorrect port timing of a two-stroke engine?

Ans
✗ 1. Partial burning of fuel
✓ 2. Constant pressure inside the engine cylinder
✗ 3. Decrease in the efficiency of the engine
✗ 4. Leakage of fresh charge

Question ID : **630680348118**
Option 1 ID : **6306801354762**
Option 2 ID : **6306801354763**
Option 3 ID : **6306801354764**
Option 4 ID : **6306801354761**
Status : **Not Answered**
Chosen Option : --

Q.51 Which of the given statements regarding a mechanism is/are correct?

Statements:

1) If losses are zero, then the output in the mechanism will be equal to the input.

2) Mechanical efficiency of an ideal mechanism is 100%.

Ans
✗ 1. Only 2
✗ 2. Only 1
✗ 3. Neither 1 nor 2
✓ 4. Both 1 and 2

Question ID : **630680101104**
Option 1 ID : **630680392943**
Option 2 ID : **630680392942**
Option 3 ID : **630680392941**
Option 4 ID : **630680392940**
Status : **Not Answered**
Chosen Option : --

Q.52 The equation of state for an ideal gas is given by _____, where p is pressure, T is temperature, V is volume, and R is universal gas constant.

Ans
✓ 1. P = RT/V
✗ 2. PT = R/V
✗ 3. TV = constant
✗ 4. PR = T/V

Question ID : **6306801099816**
Option 1 ID : **6306804320577**
Option 2 ID : **6306804320578**
Option 3 ID : **6306804320575**
Option 4 ID : **6306804320576**
Status : **Not Answered**
Chosen Option : --

Q.53 A belt transmits the Power of 10kW.The Tension on the tight side is 2500N and the mass of Belt is 3kg/m.The velocity of belt is 8m/sec.The maximum tension induced in the belt is ____N.

Ans
✗ 1. 2500
✗ 2. 2592
✗ 3. 2000
✓ 4. 2692

Question ID : **63068081412**
Option 1 ID : **630680315681**
Option 2 ID : **630680315680**
Option 3 ID : **630680315682**
Option 4 ID : **630680315683**
Status : **Not Answered**
Chosen Option : --

Q.54 Consider a system that is completely isolated from its surroundings. Which of the following statements is true if the system is in equilibrium at the moment of isolation?

Ans
✗ 1. It is changing from a solid to a liquid.
✗ 2. Its temperature and pressure are changing.
✓ 3. Its temperature and pressure do not change.
✗ 4. The boundaries of the system are moving.

Question ID : **630680147617**
Option 1 ID : **630680571207**
Option 2 ID : **630680571208**
Option 3 ID : **630680571206**
Option 4 ID : **630680571209**
Status : **Not Answered**
Chosen Option : --

Q.55 The total number of pairs of teeth in contact (contact ratio) is defined as the ratio of the _____.

Ans
✗ 1. circular pitch to length of the arc of contact
✗ 2. circular path to length of path of contact
✓ 3. length of the arc of contact to circular pitch
✗ 4. length of path of contact to circular path

Question ID : **6306801100571**
Option 1 ID : **6306804323568**
Option 2 ID : **6306804323570**
Option 3 ID : **6306804323567**
Option 4 ID : **6306804323569**
Status : **Not Answered**
Chosen Option : --

Q.56 On a Pressure-Volume (P-V) diagram, which law of gas behavior is represented by a rectangular hyperbola curve?

Ans
✓ 1. Boyle's law
✗ 2. Charles's law
✗ 3. Avogadro's law
✗ 4. Gay-Lussac's law

Question ID : **630680348146**
Option 1 ID : **6306801354874**
Option 2 ID : **6306801354873**
Option 3 ID : **6306801354876**
Option 4 ID : **6306801354875**
Status : **Not Answered**
Chosen Option : --

Q.57 If the total Workdone (W) by the thermodynamic system on the surrounding, then the Workdone (W) is said to be:

Ans
✗ 1. infinity
✗ 2. – W (Workdone)
✗ 3. 0
✓ 4. +W (Workdone)

Question ID : **6306801099672**
Option 1 ID : **6306804320019**
Option 2 ID : **6306804320021**
Option 3 ID : **6306804320020**
Option 4 ID : **6306804320022**
Status : **Not Answered**
Chosen Option : --

Q.58 The second law of thermodynamics is also called:

Ans
✗ 1. Law of steady state flow process
✓ 2. Law of degradation of energy
✗ 3. Law of non-flow availability function
✗ 4. Law of conservation of energy

Question ID : **6306801105639**
Option 1 ID : **6306804343035**
Option 2 ID : **6306804343033**
Option 3 ID : **6306804343034**
Option 4 ID : **6306804343032**
Status : **Not Answered**
Chosen Option : --

Q.59 A governor is said to be isochronous (infinite sensitivity) when the equilibrium speed is _____ within the working range.

Ans
✔ 1. constant
✘ 2. in idle motion
✘ 3. increasing
✘ 4. decreasing

Question ID : **6306801100590**
Option 1 ID : **6306804323644**
Option 2 ID : **6306804323646**
Option 3 ID : **6306804323643**
Option 4 ID : **6306804323645**
Status : **Not Answered**
Chosen Option : --

Q.60 In case of an impulse steam turbine, if the tangential component of absolute velocity at the outlet (V_{w2}) is opposite in direction to the tangential component of absolute velocity at inlet (V_{w1}), then the work done per kg of steam in terms of peripheral blade velocity U,V_{w1} and V_{w2} is given by:

Ans
✘ 1. $W=U(V_{w1}-V_{w2})$
✔ 2. $W=U(V_{w1}+V_{w2})$
✘ 3. $W=U(V_{w1})$
✘ 4. $W=U(V_{w2})$

Question ID : **630680171079**
Option 1 ID : **630680662903**
Option 2 ID : **630680662902**
Option 3 ID : **630680662900**
Option 4 ID : **630680662901**
Status : **Not Answered**
Chosen Option : --

Q.61 In a reciprocating steam engine, the piston is the _____ and the flywheel is the _____.

Ans
✘ 1. rotor; driver
✔ 2. driver; follower
✘ 3. follower; driver
✘ 4. inverter; follower

Question ID : **6306801100023**
Option 1 ID : **6306804321414**
Option 2 ID : **6306804321411**
Option 3 ID : **6306804321412**
Option 4 ID : **6306804321413**
Status : **Not Answered**
Chosen Option : --

Q.62 What does a zero angle of friction indicate?

Ans
✘ 1. the frictional force is infinite
✘ 2. the frictional force acts along the direction of motion
✘ 3. the frictional force acts normal to the plane
✔ 4. the frictional force is zero

Question ID : **630680110905**
Option 1 ID : **630680429604**
Option 2 ID : **630680429607**
Option 3 ID : **630680429606**
Option 4 ID : **630680429605**
Status : **Not Answered**
Chosen Option : --

Q.63 The vapour compression refrigeration cycle is inherently irreversible, because:

Ans
✗ 1. the compressor is ideal
✗ 2. the condensation process is isothermal
✗ 3. the evaporator is frictionless
✓ 4. the use of expansion valve

Question ID : **630680116742**
Option 1 ID : **630680452254**
Option 2 ID : **630680452256**
Option 3 ID : **630680452255**
Option 4 ID : **630680452257**
Status : **Not Answered**
Chosen Option : --

Q.64 For a closed system undergoing an isochoric process, the value of T.ds is equal to:

Ans
✓ 1. change in specific internal energy
✗ 2. change in pressure
✗ 3. change in specific enthalpy
✗ 4. change in temperature

Question ID : **630680348145**
Option 1 ID : **6306801354869**
Option 2 ID : **6306801354871**
Option 3 ID : **6306801354870**
Option 4 ID : **6306801354872**
Status : **Not Answered**
Chosen Option : --

Q.65 In a water turbine, _____ when water enters the turbine.

Ans
✓ 1. potential energy of water is converted into kinetic energy
✗ 2. potential energy of water is converted into heat energy
✗ 3. potential energy of steam is converted into kinetic energy
✗ 4. kinetic energy of water is converted into potential energy

Question ID : **6306801099713**
Option 1 ID : **6306804320117**
Option 2 ID : **6306804320118**
Option 3 ID : **6306804320116**
Option 4 ID : **6306804320115**
Status : **Not Answered**
Chosen Option : --

Q.66 Two coplanar and parallel shafts are connected by gears. These gears are known as _____.

Ans
✗ 1. skew bevel gears
✗ 2. helical bevel gears
✓ 3. spur gears
✗ 4. bevel gears

Question ID : **6306801101116**
Option 1 ID : **6306804325714**
Option 2 ID : **6306804325713**
Option 3 ID : **6306804325711**
Option 4 ID : **6306804325712**
Status : **Not Answered**
Chosen Option : --

Q.67 Erosion in steam turbine blades is majorly due to _____.

Ans
✗ 1. high steam temperature
✗ 2. high turbine blade speed
✗ 3. low turbine blade speed
✓ 4. droplets in steam

Question ID : **6306801105780**
Option 1 ID : **6306804343480**
Option 2 ID : **6306804343482**
Option 3 ID : **6306804343483**
Option 4 ID : **6306804343481**
Status : **Not Answered**
Chosen Option : --

Q.68 PMM 1 in Thermodynamics stands for:

Ans
✗ 1. Primary motion machine of the first kind
✓ 2. Perpetual motion machine of the first kind
✗ 3. Perpetual motion mechanics of the first kind
✗ 4. Perpetual mechanical machine of the first kind

Question ID : 6306801105581
Option 1 ID : 6306804342847
Option 2 ID : 6306804342844
Option 3 ID : 6306804342846
Option 4 ID : 6306804342845
Status : Not Answered
Chosen Option : --

Q.69 A cylindrical shell with internal pressure p , diameter d , and thickness t experiences stresses. The modulus of elasticity is E and Poisson's ratio is μ . The hoop stress $\sigma_1 = \frac{pd}{2t}$ and longitudinal stress $\sigma_2 = \frac{pd}{4t}$. The longitudinal strain e_2 is given by:

$$e_2 = \frac{\sigma_2}{E} - \mu\frac{\sigma_1}{E}$$

Which of the following expressions correctly represents the longitudinal strain e_2 after substituting the values of σ_1 and σ_2?

Ans
✗ 1. $e_2 = \frac{pd}{4tE}(1-\mu)$
✗ 2. $e_2 = \frac{pd}{tE}\left(1-\frac{\mu}{2}\right)$
✗ 3. $e_2 = \frac{pd}{2tE}\left(1-\frac{\mu}{2}\right)$
✓ 4. $e_2 = \frac{pd}{2tE}\left(\frac{1}{2}-\mu\right)$

Question ID : 6306801087543
Option 1 ID : 6306804271440
Option 2 ID : 6306804271441
Option 3 ID : 6306804271439
Option 4 ID : 6306804271438
Status : Not Answered
Chosen Option : --

Q.70 For a perfect gas, the ratio of Cp/Cv is always _____, where Cp & Cv = Specific heat at constant pressure and constant volume, respectively.

Ans
✗ 1. lesser than unity
✗ 2. infinity
✗ 3. equal to unity
✓ 4. greater than unity

Question ID : 6306801089635
Option 1 ID : 6306804279812
Option 2 ID : 6306804279810
Option 3 ID : 6306804279811
Option 4 ID : 6306804279813
Status : Not Answered
Chosen Option : --

Q.71 In which thermodynamic process do we have $pv^{\gamma} = constant$, where p is pressure, v is volume and γ is specific heat.

Ans
✗ 1. Isothermal process
✗ 2. Constant volume process
✗ 3. Constant pressure process
✓ 4. Reversible adiabatic process

Question ID : 6306801099786
Option 1 ID : 6306804320459
Option 2 ID : 6306804320461
Option 3 ID : 6306804320462
Option 4 ID : 6306804320460
Status : Not Answered
Chosen Option : --

Q.72 Which of the following statements about the Poisson's ratio is correct?

Ans
✗ 1. Poisson's ratio for steel is generally higher than rubber.
✗ 2. Poisson's ratio is only applicable to materials under tension, not compression.
✓ 3. Poisson's ratio for concrete is lower than that for cast iron.
✗ 4. The value of Poisson's ratio for copper lies between 0.25 and 0.33.

Question ID : **6306801088790**
Option 1 ID : **6306804276426**
Option 2 ID : **6306804276429**
Option 3 ID : **6306804276428**
Option 4 ID : **6306804276427**
Status : **Not Answered**
Chosen Option : --

Q.73 A solid circular shaft is subjected to a bending moment, and the bending stress is given as σ_b . If the moment of inertia I of the sh $\frac{\pi}{64} \times d^4$ and the distance y from the neutral axis to the outermost fiber is $\frac{d}{2}$, what is the expression for the bending moment M?

Ans
✗ 1. $M = \frac{\pi}{32} \times \sigma_b \times d^4$
✓ 2. $M = \frac{\pi}{32} \times \sigma_b \times d^3$
✗ 3. $M = \frac{\pi}{64} \times \sigma_b \times d^4$
✗ 4. $M = \frac{\pi}{64} \times \sigma_b \times d^3$

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Chosen O

Q.74 Tractive force in balancing of reciprocating masses is defined as _____.

Ans
✓ 1. the resultant unbalanced force due to the two cylinders, along the line of stroke
✗ 2. the resultant balanced force due to the single cylinder, along the line of stroke
✗ 3. the resultant balanced force due to the multiple cylinders, along the line of stroke
✗ 4. the resultant balanced force due to the two cylinders, along the line of stroke

Question ID : **6306801099997**
Option 1 ID : **6306804321315**
Option 2 ID : **6306804321318**
Option 3 ID : **6306804321317**
Option 4 ID : **6306804321316**
Status : **Not Answered**
Chosen Option : --

Q.75 Co-efficient of performance (C.O.P.) of refrigerator is defined as the ratio of _____.

Ans
✗ 1. Heat absorbed at higher temperature / Heat absorbed at lower temperature
✗ 2. Work done / Heat supplied
✗ 3. Work input / Heat absorbed at lower temperature
✓ 4. Heat absorbed at lower temperature / Work input

Question ID : **6306801105683**
Option 1 ID : **6306804343183**
Option 2 ID : **6306804343182**
Option 3 ID : **6306804343180**
Option 4 ID : **6306804343181**
Status : **Not Answered**
Chosen Option : --

Q.76 If pressure delivery for a single stage reciprocating compressor is increased, then mass flow through the air compressor will _____.

Ans
✗ 1. increase
✓ 2. decrease
✗ 3. show no change
✗ 4. be zero

Question ID : 6306801103552
Option 1 ID : 6306804335120
Option 2 ID : 6306804335121
Option 3 ID : 6306804335122
Option 4 ID : 6306804335123
Status : Not Answered
Chosen Option : --

Q.77 Which type of lines primarily represent the processes on a T-S diagram for an Otto cycle?

Ans
✓ 1. Vertical and curved lines
✗ 2. Spiral and straight lines
✗ 3. Circular and straight lines
✗ 4. Curved and horizontal lines

Question ID : 630680503195
Option 1 ID : 6306801966366
Option 2 ID : 6306801966367
Option 3 ID : 6306801966368
Option 4 ID : 6306801966365
Status : Not Answered
Chosen Option : --

Q.78 From experimental observations, an ideal gas behaves according to the simple equation

_____
where
p = pressure,
V = volume,
T = temperature of gas,
m = mass of gas,
R = universal gas constant.

Ans
✗ 1. pT= mRV
✗ 2. pV − m = RT
✓ 3. pV = mRT
✗ 4. V = mRT − p

Question ID : 6306801103612
Option 1 ID : 6306804335323
Option 2 ID : 6306804335322
Option 3 ID : 6306804335320
Option 4 ID : 6306804335321
Status : Not Answered
Chosen Option : --

Q.79 **A column AB of length l is fixed at end A and free at end B. The column is subjected to an eccentric load P, which acts at a distance e from the centroid of the cross-section. The deflection at free end B is a. Which of the following expressions correctly represents the maximum compressive stress σ_{max}?**

Ans

✔ 1. $\sigma_{max} = \frac{P}{A} + \frac{P.e\sec\left(l\sqrt{\frac{P}{EI}}\right)}{Z}$

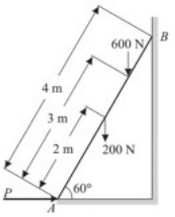
✘ 2. $\sigma_{maz} = \frac{P.e}{AZ}\sec\left(l\sqrt{\frac{P}{EI}}\right)$

✘ 3. $\sigma_{max} = \frac{P}{A}\sec\left(\frac{l}{2}\sqrt{\frac{P}{EI}}\right)$

✘ 4. $\sigma_{max} = \frac{P}{AZ}\sec\left(\frac{l}{2}\sqrt{\frac{P}{EI}}\right)$

Question ID : 6306801087403
Option 1 ID : 6306804270835
Option 2 ID : 6306804270836
Option 3 ID : 6306804270834
Option 4 ID : 6306804270837
Status : Not Answered
Chosen Option : --

Q.80 Determine the correct system of forces acting on the ladder shown in the figure below, which is positioned against a smooth wall and inclined at 60° to the horizontal. Include all applied forces and reaction forces at points A and B.



Ans

✘ 1. non-coplanar concurrent

✘ 2. non-coplanar nonconcurrent

✘ 3. coplanar concurrent

✔ 4. coplanar nonconcurrent

Question ID : 630680134002
Option 1 ID : 630680518936
Option 2 ID : 630680518937
Option 3 ID : 630680518934
Option 4 ID : 630680518935
Status : Not Answered
Chosen Option : --

Q.81 The number of Normal reaction produced for the ladder placed in the bowl shown below is _____.

Ans

✘ 1. 3

✔ 2. 2

✘ 3. 1

✘ 4. 4

Question ID : 63068081416
Option 1 ID : 630680315697
Option 2 ID : 630680315696
Option 3 ID : 630680315699
Option 4 ID : 630680315698
Status : Not Answered
Chosen Option : --

Q.82 Which of the following properties of a material can be estimated using the Izod test?

Ans
✔ 1. Impact resistance
✘ 2. Hardness
✘ 3. Brittleness
✘ 4. Ductility

Question ID : **6306801096614**
Option 1 ID : **6306804307758**
Option 2 ID : **6306804307756**
Option 3 ID : **6306804307759**
Option 4 ID : **6306804307757**
Status : **Not Answered**
Chosen Option : --

Q.83 In an isochoric process, which property remains constant?

Ans
✔ 1. Volume
✘ 2. Enthalpy
✘ 3. Temperature
✘ 4. Specific heat

Question ID : **6306801099781**
Option 1 ID : **6306804320441**
Option 2 ID : **6306804320442**
Option 3 ID : **6306804320439**
Option 4 ID : **6306804320440**
Status : **Not Answered**
Chosen Option : --

Q.84 The Beattie-Bridgeman equation is known to be accurate, when the density(ρ) of the real gas satisfies the relation _____. Here ρ_{cr} is the critical density.

Ans
✔ 1. $\rho < 0.8\rho_{cr}$
✘ 2. $\rho > 0.2\rho_{cr}$
✘ 3. $\rho < \rho_{cr}$
✘ 4. $\rho > 0.8\rho_{cr}$

Question ID : **630680116752**
Option 1 ID : **630680452295**
Option 2 ID : **630680452297**
Option 3 ID : **630680452294**
Option 4 ID : **630680452296**
Status : **Not Answered**
Chosen Option : --

Q.85 Two sections of a compound bar, one made of steel and the other made of copper, are rigidly connected and subjected to a tensile load. The modulus of elasticity of steel is greater than that of copper. Which of the following statements is correct regarding the stresses in the two materials?

Ans
✘ 1. The stress in copper will be higher than in steel.
✘ 2. The stresses in both materials will be equal.
✘ 3. The strain in copper will be higher than in steel.
✔ 4. The stress in steel will be higher than in copper.

Question ID : **6306801096622**
Option 1 ID : **6306804307789**
Option 2 ID : **6306804307790**
Option 3 ID : **6306804307791**
Option 4 ID : **6306804307788**
Status : **Not Answered**
Chosen Option : --

Q.86 In a multi-stage air compressor, the air leaving one compressor is cooled to ambient temperature before entering the next compressor for further compression. This cooling process is implemented primarily to improve which of the following efficiencies?

Ans
✔ 1. isothermal efficiency
✗ 2. adiabatic efficiency
✗ 3. indicated work input
✗ 4. isentropic work input

Question ID : 630680101188
Option 1 ID : 630680393274
Option 2 ID : 630680393273
Option 3 ID : 630680393272
Option 4 ID : 630680393275
Status : Not Answered
Chosen Option : --

Q.87 When a gas is heated, its _____ increases along with the temperature.

Ans
✗ 1. volume
✔ 2. internal energy
✗ 3. weight
✗ 4. heat energy

Question ID : 6306801099716
Option 1 ID : 6306804320129
Option 2 ID : 6306804320128
Option 3 ID : 6306804320130
Option 4 ID : 6306804320127
Status : Not Answered
Chosen Option : --

Q.88 A cylindrical shell with internal fluid pressure p, diameter d and thickness t is subjected to stresses. The modulus of elasticity is E. Given the hoop stress $\sigma_1 = \frac{pd}{2t}$ and longitudinal stress $\sigma_2 = \frac{pd}{4t}$, the circumferential strain e_1 is expressed as

$$e_1 = \frac{\sigma_1}{E} - \mu\frac{\sigma_2}{E}.$$

What is the correct expression for circumferential strain (hoop strain) after substituting the values of σ_1 and σ_2?

Ans
✗ 1. $e_1 = \frac{pd}{2tE}(1 - \mu)$
✗ 2. $e_1 = \frac{pd}{tE}\left(1 - \frac{\mu}{4}\right)$
✗ 3. $e_1 = \frac{pd}{tE}\left(1 - \frac{\mu}{2}\right)$
✔ 4. $e_1 = \frac{pd}{2tE}\left(1 - \frac{\mu}{2}\right)$

Question ID
Option 1 ID
Option 2 ID
Option 3 ID
Option 4 ID
Status
Chosen Option

Q.89 In a reciprocating compressor, the maximum compression pressure is controlled by:

Ans
✔ 1. clearance volume
✗ 2. total volume
✗ 3. swept volume
✗ 4. compressor volume

Question ID : 630680101189
Option 1 ID : 630680393279
Option 2 ID : 630680393277
Option 3 ID : 630680393278
Option 4 ID : 630680393276
Status : Not Answered
Chosen Option : --

Q.90 The cylindrical portion of the rivet is called _____.

Ans
✗ 1. tail
✗ 2. head
✓ 3. shank
✗ 4. point

Question ID : 6306801102670
Option 1 ID : 6306804331606
Option 2 ID : 6306804331605
Option 3 ID : 6306804331604
Option 4 ID : 6306804331607
Status : Not Answered
Chosen Option : --

Q.91 A thin-walled sphere with a radius of 0.5 metre and a wall thickness of 0.01 metre is subjected to an internal pressure of 0.7 MPa. What is the hoop stress (σ_h) in the sphere?

Ans
✗ 1. 14.0 MPa
✓ 2. 17.5 MPa
✗ 3. 10.5 MPa
✗ 4. 20.0 MPa

Question ID : 6306801096627
Option 1 ID : 6306804307809
Option 2 ID : 6306804307810
Option 3 ID : 6306804307808
Option 4 ID : 6306804307811
Status : Not Answered
Chosen Option : --

Q.92 Suitable conditions for the triple point of water are _____.

Ans
✓ 1. temperature = 0.01°C and pressure = 0.6113 kPa
✗ 2. temperature = 0.01°C and pressure = 0.6113 Pa
✗ 3. temperature = 1.00°C and pressure = 0.6113 kPa
✗ 4. temperature = 100.0°C and pressure = 0.6113 kPa

Question ID : 630680607724
Option 1 ID : 6306802378001
Option 2 ID : 6306802378003
Option 3 ID : 6306802378002
Option 4 ID : 6306802378004
Status : Not Answered
Chosen Option : --

Q.93 An ideal gas undergoes a reversible adiabatic expansion against external pressure. The work done by the gas results in:

Ans
✗ 1. No change in temperature
✗ 2. Increase in temperature
✓ 3. Decrease in temperature
✗ 4. Increase in temperature followed by a decrease

Question ID : 630680147650
Option 1 ID : 630680571338
Option 2 ID : 630680571339
Option 3 ID : 630680571340
Option 4 ID : 630680571341
Status : Not Answered
Chosen Option : --

Q.94 A liquid at 20°C in a closed vessel is subjected to a reduction in pressure above its surface. What will happen if the pressure is reduced to a value equal to or less than the vapour pressure of the liquid at that temperature?

Ans
✗ 1. The liquid will boil at 100°C.
✗ 2. The liquid will not boil at all.
✓ 3. The liquid will boil at 20°C.
✗ 4. The liquid will evaporate.

Question ID : 6306801090071
Option 1 ID : 6306804281455
Option 2 ID : 6306804281457
Option 3 ID : 6306804281456
Option 4 ID : 6306804281454
Status : Not Answered
Chosen Option : --

Q.95 Stresses due to combined bending loads and torsional loads are induced in _____.

Ans
✓ 1. shafts
✗ 2. gears
✗ 3. joints
✗ 4. bearings

Question ID : 6306801103294
Option 1 ID : 6306804334088
Option 2 ID : 6306804334091
Option 3 ID : 6306804334090
Option 4 ID : 6306804334089
Status : Not Answered
Chosen Option : --

Q.96 The two-phase regions on a p-V-T diagram appear as a:

Ans
✗ 1. surface perpendicular to p-V plane
✗ 2. horizontal line
✗ 3. surface perpendicular to V-T plane
✓ 4. surface perpendicular to p-T plane

Question ID : 630680147640
Option 1 ID : 630680571300
Option 2 ID : 630680571301
Option 3 ID : 630680571299
Option 4 ID : 630680571298
Status : Not Answered
Chosen Option : --

Q.97 In an isobaric process, which thermodynamic property is constant?

Ans
✗ 1. Volume
✗ 2. Temperature
✗ 3. Energy
✓ 4. Pressure

Question ID : 6306801099775
Option 1 ID : 6306804320407
Option 2 ID : 6306804320409
Option 3 ID : 6306804320410
Option 4 ID : 6306804320408
Status : Not Answered
Chosen Option : --

Q.98 What factors affect the value of the friction factor (f) in the Darcy-Weisbach equation?

Ans
✗ 1. Pipe material, fluid viscosity and pressure
✗ 2. Pipe diameter, fluid density and flow velocity
✓ 3. Surface roughness and Reynolds number
✗ 4. Flow rate, pipe length and fluid temperature

Question ID : 6306801090072
Option 1 ID : 6306804281460
Option 2 ID : 6306804281458
Option 3 ID : 6306804281459
Option 4 ID : 6306804281461
Status : Not Answered
Chosen Option : --

Q.99 For which of the following types of processes does no thermodynamic property remain constant?

Ans
✗ 1. Isenthalpic process
✓ 2. Polytropic process
✗ 3. Isothermal process
✗ 4. Adiabatic process

Question ID : 630680348147
Option 1 ID : 6306801354880
Option 2 ID : 6306801354879
Option 3 ID : 6306801354878
Option 4 ID : 6306801354877
Status : Not Answered
Chosen Option : --

Q.100 **When a simple bar is subjected to a temperature rise T and both ends are fixed, preventing any expansion, which of the following equations correctly represents the thermal stress σ developed in the bar?**

Ans
✓ 1. $\sigma = E.\alpha.T$
✗ 2. $\sigma = \frac{E}{\alpha.T}$
✗ 3. $\sigma = \alpha.T$
✗ 4. $\sigma = \frac{\alpha.T}{E}$

Question ID : 6306801088793
Option 1 ID : 6306804276438
Option 2 ID : 6306804276439
Option 3 ID : 6306804276441
Option 4 ID : 6306804276440
Status : Not Answered
Chosen Option : --

Section : Technical Part Marine Engineering

Q.1 When the speed of rotation of the shaft approaches natural frequency of the shaft, which of the following statements is correct?

Ans
✗ 1. It is known as critical damping in which the shaft stops after one rotation even when there is constant torque applied on shaft.
✗ 2. It is known as torsional vibration and it results in further increase in speed of the shaft with lesser torque.
✓ 3. It is known as critical speed or the resonance in which the shaft vibrates regardless of orientation.
✗ 4. It is known as underdamping in which speed of the shaft slows down even under constant torque applied shaft.

Question ID : 6306801097544
Option 1 ID : 6306804311437
Option 2 ID : 6306804311438
Option 3 ID : 6306804311439
Option 4 ID : 6306804311440
Status : Not Answered
Chosen Option : --

Q.2 Which of the following statements is INCORRECT about the isentropic flow of an ideal gas through a convergent-divergent nozzle?

Ans
✗ 1. Mach number = 1 occurs only at the throat and nowhere else in the nozzle.
✗ 2. When Mach number = 1 occurs at throat, the discharge is maximum and the nozzle is said to be choked.
✓ 3. When the discharge is the maximum at the throat, Mach number ≥ 5.
✗ 4. When Mach number = 1, this discharge is also known as critical discharge of nozzle.

Question ID : 6306801094911
Option 1 ID : 6306804300928
Option 2 ID : 6306804300930
Option 3 ID : 6306804300929
Option 4 ID : 6306804300931
Status : Not Answered
Chosen Option : --

Q.3 Which of the following is NOT considered as a parameter for the engine rating?

Ans
✗ 1. Cylinder volume of the engine
✗ 2. Brake power in kW
✓ 3. Calorific value of fuel
✗ 4. Speed of engine in rpm

Question ID : **6306801097627**
Option 1 ID : **6306804311760**
Option 2 ID : **6306804311757**
Option 3 ID : **6306804311758**
Option 4 ID : **6306804311759**
Status : **Not Answered**
Chosen Option : --

Q.4 Sensible cooling can be done up to which temperature?

Ans
✗ 1. Dry bulb temperature
✗ 2. Total bulb temperature
✗ 3. Wet bulb temperature
✓ 4. Dew point temperature

Question ID : **6306801092706**
Option 1 ID : **6306804292078**
Option 2 ID : **6306804292081**
Option 3 ID : **6306804292080**
Option 4 ID : **6306804292079**
Status : **Not Answered**
Chosen Option : --

Q.5 Sea water is NOT directly used in cooling engines on a ship because it is _____.

Ans
✗ 1. toxic
✗ 2. salty
✓ 3. corrosive
✗ 4. polluted

Question ID : **6306801092583**
Option 1 ID : **6306804291594**
Option 2 ID : **6306804291595**
Option 3 ID : **6306804291596**
Option 4 ID : **6306804291597**
Status : **Not Answered**
Chosen Option : --

Q.6 In a diesel engine, the process of passing fresh air into the working cylinder displacing the spent charge is called _____.

Ans
✗ 1. Charging
✗ 2. Blowing
✓ 3. Scavenging
✗ 4. Sweeping

Question ID : **6306801073394**
Option 1 ID : **6306804215725**
Option 2 ID : **6306804215722**
Option 3 ID : **6306804215724**
Option 4 ID : **6306804215723**
Status : **Not Answered**
Chosen Option : --

Q.7 A chemical substance that is used for dehumidification, which takes up the moisture from air and during this process, changes its chemical and physical properties, is known as _____ material.

Ans
✗ 1. rheological
✗ 2. adsorbent
✗ 3. piezoelectric
✓ 4. absorbent

Question ID : **6306801092962**
Option 1 ID : **6306804293059**
Option 2 ID : **6306804293057**
Option 3 ID : **6306804293056**
Option 4 ID : **6306804293058**
Status : **Not Answered**
Chosen Option : --

Q.8 Which of the following is the correct reason for the designing of double shell construction of high pressure casing of the steam turbine?

Ans
✗ 1. The pressure difference across the casing wall of the steam turbine keeps fluctuating which results in lower stress.

✗ 2. The pressure difference across the casing wall of the steam turbine keeps increasing, which results in better efficiency.

✓ 3. The pressure difference across the casing of the steam turbine wall gets reduced.

✗ 4. The pressure difference across the casing wall of the steam turbine remains constant.

Question ID : **6306801094501**
Option 1 ID : **6306804299342**
Option 2 ID : **6306804299341**
Option 3 ID : **6306804299339**
Option 4 ID : **6306804299340**
Status : **Not Answered**
Chosen Option : **--**

Q.9 Which of the following is the basic function of the exhaust gas boiler?

Ans
✗ 1. It is used to heat the pulverised coal powder feed to the boiler furnace.

✓ 2. It is used to preheat the feed water to the boiler.

✗ 3. It is used to superheat the exhaust steam coming from the low pressure turbine.

✗ 4. It is used to preheat the air which is fed to the furnace for better combustion.

Question ID : **6306801096776**
Option 1 ID : **6306804308388**
Option 2 ID : **6306804308389**
Option 3 ID : **6306804308391**
Option 4 ID : **6306804308390**
Status : **Not Answered**
Chosen Option : **--**

Q.10 Which of the following is NOT a component of a propeller shaft used in ships?

Ans
✓ 1. Head shaft

✗ 2. Thrust shaft

✗ 3. Intermediate shaft

✗ 4. Tail shaft

Question ID : **6306801099550**
Option 1 ID : **6306804319454**
Option 2 ID : **6306804319451**
Option 3 ID : **6306804319452**
Option 4 ID : **6306804319453**
Status : **Not Answered**
Chosen Option : **--**

Q.11 In which boiler are both exhaust gases and oil fire used at the same time?

Ans
✗ 1. Lancashire boiler

✗ 2. Scotch marine boiler

✗ 3. Diesel locomotive boiler

✓ 4. Composite boiler

Question ID : **6306801096002**
Option 1 ID : **6306804305334**
Option 2 ID : **6306804305333**
Option 3 ID : **6306804305331**
Option 4 ID : **6306804305332**
Status : **Not Answered**
Chosen Option : **--**

Q.12 Which of the following processes is used in the winter air conditioning of a room?

Ans
✓ 1. Heating and humidification

✗ 2. Dehumidification

✗ 3. Cooling and dehumidification

✗ 4. Humidification

Question ID : **6306801092786**
Option 1 ID : **6306804292395**
Option 2 ID : **6306804292393**
Option 3 ID : **6306804292394**
Option 4 ID : **6306804292392**
Status : **Not Answered**
Chosen Option : **--**

Q.13 The ratio of actual mass of water vapour in a given volume of moist air to the mass of water vapour in the volume of saturated air at the same temperature and pressure is known as:

Ans
✔ 1. absolute humidity
✘ 2. humid air
✘ 3. degree of saturation
✘ 4. relative humidity

Question ID : **6306801092230**
Option 1 ID : **6306804290168**
Option 2 ID : **6306804290166**
Option 3 ID : **6306804290167**
Option 4 ID : **6306804290169**
Status : **Not Answered**
Chosen Option : --

Q.14 Which of the following is the NOT the correct purpose of an auxiliary steam plant system?

Ans
✘ 1. It supplies steam to the various loads in the auxiliary and fuel buildings during plant startups and shutdowns.
✘ 2. It supplies steam to the hogging air ejectors during plant startups and shutdowns.
✔ 3. It supplies steam to the high pressure steam turbines to meet the extra electric power demand.
✘ 4. It supplies steam to the gland steam system to main air ejectors during plant startups and shutdowns.

Question ID : **6306801096747**
Option 1 ID : **6306804308282**
Option 2 ID : **6306804308281**
Option 3 ID : **6306804308283**
Option 4 ID : **6306804308280**
Status : **Not Answered**
Chosen Option : --

Q.15 An emergency bilge pump is mandatory on _____ ships.

Ans
✘ 1. only passenger
✘ 2. only cargo
✔ 3. passenger, cargo and container
✘ 4. only container

Question ID : **6306801105050**
Option 1 ID : **6306804340728**
Option 2 ID : **6306804340729**
Option 3 ID : **6306804340731**
Option 4 ID : **6306804340730**
Status : **Not Answered**
Chosen Option : --

Q.16 Auxiliary boilers on diesel propulsion ships, other than oil tankers, are usually _____ boilers.

Ans
✘ 1. watertube
✘ 2. double evaporation
✘ 3. packaged
✔ 4. composite

Question ID : **6306801087244**
Option 1 ID : **6306804270196**
Option 2 ID : **6306804270197**
Option 3 ID : **6306804270195**
Option 4 ID : **6306804270194**
Status : **Not Answered**
Chosen Option : --

Q 17 Considering the following parameters for the assessing the blade stresses:

γ – specific weight of blade material, kg/m^3

α – blade cross – sectional area, m^2 and

ω – anagular velocity , rad/s

A – Angular Area, m^2

Which of the following equations represents centrifugal or tensile stress at the blade root?

Ans

✗ 1. $\sigma_t = \frac{a\omega^2}{2\pi\gamma} \times A$

✗ 2. $\sigma_t = \frac{2\pi a}{\gamma\omega^2} \times A$

✗ 3. $\sigma_t = \frac{\gamma a\omega^2}{2\pi A}$

✓ 4. $\sigma_t = \frac{\gamma a\omega^2}{2\pi} \times A$

Question ID : 6306801094448
Option 1 ID : 6306804299141
Option 2 ID : 6306804299142
Option 3 ID : 6306804299139
Option 4 ID : 6306804299140
Status : Not Answered
Chosen Option : --

Q 18 Which of the following equations represents Fourier's law of heat conduction in three dimensions?

T – temprature in deg. Celcius

q_g – volumetric heat generation rate in W/m^3

Consider: k – thermal conductivity of the material in W/mk

α – thermal diffusivity of solid in m^2/s

and t – time in seconds

Ans

✗ 1. $\nabla^2 T \times k = \frac{q_g}{\alpha} \times \frac{\partial T}{\partial t}$

✓ 2. $\nabla^2 T + \frac{q_g}{k} = \frac{1}{\alpha} \times \frac{\partial T}{\partial t}$

✗ 3. $\nabla^2 T - \frac{q_g}{k} = \frac{1}{\alpha} \times \frac{\partial T}{\partial t}$

✗ 4. $\nabla^2 T \times \frac{q_g}{k} = \frac{1}{\alpha} - \frac{\partial T}{\partial t}$

Question ID : 6306801095602
Option 1 ID : 6306804488338
Option 2 ID : 6306804303699
Option 3 ID : 6306804303698
Option 4 ID : 6306804303700
Status : Not Answered
Chosen Option : --

Q 19 Which of the following relations is correct between natural frequency (f_n) in Hz, time period (t_p) in second, angular speed (ω) in rad/s, stiffness of the shaft (s) in N – m and the mass (m) of the shaft in kg?

Ans

✓ 1. $f_n = \frac{1}{t_p} = \frac{\omega}{2\pi} = \frac{1}{2\pi}\sqrt{\frac{s}{m}}$

✗ 2. $f_n = \frac{2\pi}{t_p} = \frac{\omega}{3}\sqrt{\frac{m}{s}}$

✗ 3. $f_n = \frac{1}{2\pi} = \frac{\omega}{t_p} = \frac{1}{2\pi}\sqrt{\frac{m}{s}}$

✗ 4. $f_n = 2\pi t_p = \sqrt{\frac{g}{m}}$

Question ID : 6306801097531
Option 1 ID : 6306804311394
Option 2 ID : 6306804311396
Option 3 ID : 6306804311395
Option 4 ID : 6306804488288
Status : Not Answered
Chosen Option : --

Q.20 Which of the following is NOT used as a low pressure auxiliary boiler in diesel powered ships?

Ans
✗ 1. Donkey Boilers
✓ 2. Watertube Boilers
✗ 3. Firetube Boilers
✗ 4. Tank Boilers

Question ID : 6306801107457
Option 1 ID : 6306804350288
Option 2 ID : 6306804350289
Option 3 ID : 6306804350286
Option 4 ID : 6306804350287
Status : Not Answered
Chosen Option : --

Q.21 Which of the following statements is NOT correct about the de-aerator used in steam generators?

Ans
✗ 1. In the de-aerator, the feedwater is heated almost to the point of boiling.
✗ 2. The de-aerator completes the air and vapour removal process begun in the condenser.
✗ 3. Due to near boiling temperature of feedwater in the de-aerator, it releases all the dissolved gases which can then be vented off.
✓ 4. The feedwater is fed to the superheater, which releases all the dissolved gases through the de-aerator.

Question ID : 6306801096974
Option 1 ID : 6306804309161
Option 2 ID : 6306804309160
Option 3 ID : 6306804309162
Option 4 ID : 6306804309163
Status : Not Answered
Chosen Option : --

Q.22 In combined gas turbines, which of the following is NOT used for increasing the efficiency of the plant?

Ans
✗ 1. Intercooling method
✗ 2. Reheating method
✗ 3. Regeneration method
✓ 4. Increasing the inlet temperature of air method

Question ID : 6306801095360
Option 1 ID : 6306804302682
Option 2 ID : 6306804302681
Option 3 ID : 6306804302680
Option 4 ID : 6306804302683
Status : Not Answered
Chosen Option : --

Q.23 As per the standard requirement, the steering gear of a ship should be able to steer a ship from 35 degrees port to 30 degrees starboard (and vice versa) with the ship at the maximum speed within _____ seconds.

Ans
✓ 1. 28
✗ 2. 26
✗ 3. 24
✗ 4. 30

Question ID : 6306801112633
Option 1 ID : 6306804371177
Option 2 ID : 6306804371176
Option 3 ID : 6306804371175
Option 4 ID : 6306804371178
Status : Not Answered
Chosen Option : --

Q.24 For generating clean steam, which of the following steam generators is used?

Ans
✔ 1. Sterilised steam fired boiler
✘ 2. Steam fired boiler or steam to steam generator
✘ 3. Water tube boiler
✘ 4. Fire tube boiler

Question ID : **6306801096017**
Option 1 ID : **6306804305394**
Option 2 ID : **6306804305393**
Option 3 ID : **6306804305392**
Option 4 ID : **6306804305391**
Status : **Not Answered**
Chosen Option : --

Q.25 Which of the following metals is used inside the bearing adjacent to the shaft for lining?

Ans
✘ 1. Bronze metal
✔ 2. Babbitt metal
✘ 3. Stainless steel
✘ 4. Brass metal

Question ID : **6306801094928**
Option 1 ID : **6306804300992**
Option 2 ID : **6306804300994**
Option 3 ID : **6306804300995**
Option 4 ID : **6306804300993**
Status : **Not Answered**
Chosen Option : --

Q.26 Which of the following is the function of the governor in a turbine?

Ans
✘ 1. To maintain the load constant as the shaft speed varies by controlling the flow of fuel supply
✘ 2. To vary the shaft speed as the fuel varies by controlling load on turbine
✔ 3. To maintain the constant shaft speed as the load varies by controlling the flow of fuel supply
✘ 4. To maintain the constant fuel supply to turbine as the load varies by controlling air flow rate

Question ID : **6306801095309**
Option 1 ID : **6306804302479**
Option 2 ID : **6306804302478**
Option 3 ID : **6306804302476**
Option 4 ID : **6306804302477**
Status : **Not Answered**
Chosen Option : --

Q.27 Which of the following types of compounding of steam turbine does NOT exist?

Ans
✘ 1. Pressure-velocity compounding
✔ 2. Acceleration-velocity compounding
✘ 3. Pressure compounding
✘ 4. Velocity compounding

Question ID : **6306801093931**
Option 1 ID : **6306804297029**
Option 2 ID : **6306804297028**
Option 3 ID : **6306804297026**
Option 4 ID : **6306804297027**
Status : **Not Answered**
Chosen Option : --

Q.28 Which of the following is NOT used as a refrigerant in the simple vapour refrigerant system?

Ans
✗ 1. SO_2
✓ 2. HNO_3
✗ 3. NH_3
✗ 4. CO_2

Question ID : **6306801091979**
Option 1 ID : **6306804289176**
Option 2 ID : **6306804289177**
Option 3 ID : **6306804289174**
Option 4 ID : **6306804289175**
Status : **Not Answered**
Chosen Option : --

Q.29 Which of the given options is INCORRECT?
Ballasting system is essential on the ship to maintain:

Ans
✓ 1. Speed
✗ 2. Stability
✗ 3. Trim
✗ 4. Draft

Question ID : **6306801105046**
Option 1 ID : **6306804340715**
Option 2 ID : **6306804340714**
Option 3 ID : **6306804340712**
Option 4 ID : **6306804340713**
Status : **Not Answered**
Chosen Option : --

Q.30 In how many stages does an air compressor on a ship compress the air before sending it to the receiver?

Ans
✗ 1. Three
✗ 2. Four
✗ 3. Single
✓ 4. Two

Question ID : **6306801107453**
Option 1 ID : **6306804350272**
Option 2 ID : **6306804350273**
Option 3 ID : **6306804350270**
Option 4 ID : **6306804350271**
Status : **Not Answered**
Chosen Option : --

Q.31 Which of the given options is INCORRECT?
Without proper cooling, various parts of a diesel engine will:

Ans
✗ 1. fail
✓ 2. corrode
✗ 3. lose their mechanical properties
✗ 4. wear out faster

Question ID : **6306801102144**
Option 1 ID : **6306804329813**
Option 2 ID : **6306804329816**
Option 3 ID : **6306804329814**
Option 4 ID : **6306804329815**
Status : **Not Answered**
Chosen Option : --

Q.32 What is the reason for significant loss of lubricating oil from the system in a marine diesel engine?

Ans
✔ 1. Leak in the oil cooler
✘ 2. Carbonisation of lubricating oil
✘ 3. Pipe leakage in the crank case
✘ 4. Evaporation of lubricating oil

Question ID : 6306801080245
Option 1 ID : 6306804242846
Option 2 ID : 6306804242848
Option 3 ID : 6306804242845
Option 4 ID : 6306804242847
Status : Not Answered
Chosen Option : --

Q.33 The main difference between a two-stroke and four-stroke diesel engine is the _____.

Ans
✘ 1. noise level
✘ 2. exhaust temperature
✔ 3. power developed
✘ 4. fuel used

Question ID : 6306801078504
Option 1 ID : 6306804235909
Option 2 ID : 6306804235910
Option 3 ID : 6306804235912
Option 4 ID : 6306804235911
Status : Not Answered
Chosen Option : --

Q.34 The single objective of the Energy Efficient Design Index (EEDI) by the International Maritime Organisation (IMO) is to reduce which emission from ships?

Ans
✔ 1. Greenhouse gases
✘ 2. Oxygen
✘ 3. Nitrogen
✘ 4. Carbon monoxide

Question ID : 6306801087365
Option 1 ID : 6306804270689
Option 2 ID : 6306804270688
Option 3 ID : 6306804270687
Option 4 ID : 6306804270686
Status : Not Answered
Chosen Option : --

Q.35 As per the latest maritime regulation, an alarm should be provided if the oil content in water discharged from oily water separator exceeds _____ PPM.

Ans
✔ 1. 15
✘ 2. 125
✘ 3. 100
✘ 4. 150

Question ID : 6306801107449
Option 1 ID : 6306804350254
Option 2 ID : 6306804350256
Option 3 ID : 6306804350255
Option 4 ID : 6306804350257
Status : Not Answered
Chosen Option : --

Q.36 In a marine diesel engine, which instrument is used by the crankcase oil mist detector to measure the increase in the oil mist density in the crankcase?

Ans
✗ 1. Thermocouple
✗ 2. Elecronic Sensor
✗ 3. Explosimeter
✓ 4. Photoelectric Cell

Question ID : 6306801084681
Option 1 ID : 6306804260270
Option 2 ID : 6306804260271
Option 3 ID : 6306804260269
Option 4 ID : 6306804260272
Status : Not Answered
Chosen Option : --

Q.37 Which of the following equations represents the room sensible heat factor (RSHF) in terms of room sensible heat (RSH), room total heat (RTH) and room latent heat (RLH)?

Ans
✗ 1. $RSHF = \frac{RSH + RLH}{RLH}$
✗ 2. $RSHF = \frac{RTH}{RSH}$
✗ 3. $RSHF = \frac{RTH}{RLH + RSH}$
✓ 4. $RSHF = \frac{RSH}{RSH + RLH}$

Question ID : 6306801092157
Option 1 ID : 6306804289876
Option 2 ID : 6306804289874
Option 3 ID : 6306804289877
Option 4 ID : 6306804289875
Status : Not Answered
Chosen Option : --

Q.38 Vee engine configuration is used with some medium speed engines designs to _____.

Ans
✓ 1. reduce size and weight
✗ 2. reduce height
✗ 3. increase power
✗ 4. reduce noise

Question ID : 6306801077857
Option 1 ID : 6306804233414
Option 2 ID : 6306804233411
Option 3 ID : 6306804233412
Option 4 ID : 6306804233413
Status : Not Answered
Chosen Option : --

Q.39 A household refrigerator operates with R-11 at pressure 2 bar and 13 bar in a cycle. The vapour is dry saturated at the compressor inlet. Theoretical coefficient of performance (COP) of the refrigerator is 2 and the actual COP of the refrigerator is 80% of the theoretical value. The actual work done by the compressor on refrigerator is 45 kJ/kg. What is the net refrigerating effect produced per kg of refrigerant?

Ans
✗ 1. 36 kJ/kg
✓ 2. 72 kJ/kg
✗ 3. 63 kJ/kg
✗ 4. 41 kJ/kg

Question ID : 6306801092046
Option 1 ID : 6306804289442
Option 2 ID : 6306804289445
Option 3 ID : 6306804289444
Option 4 ID : 6306804289443
Status : Not Answered
Chosen Option : --

Q.40 Which of the following is an internally fired fire-tube boiler?

Ans
✗ 1. Lancashire fire tube boiler
✗ 2. Locomotive boiler
✓ 3. Scotch-marine boiler
✗ 4. Horizontal return boiler

Question ID : **6306801095875**
Option 1 ID : **6306804304825**
Option 2 ID : **6306804304826**
Option 3 ID : **6306804304827**
Option 4 ID : **6306804304828**
Status : **Not Answered**
Chosen Option : --

Q.41 The package boiler is a type of:

Ans
✗ 1. externally fired fire tube boiler
✗ 2. boiler which requires huge space for installation
✗ 3. water tube boiler
✓ 4. internally fired fire tube boiler

Question ID : **6306801095925**
Option 1 ID : **6306804305024**
Option 2 ID : **6306804305026**
Option 3 ID : **6306804305023**
Option 4 ID : **6306804305025**
Status : **Not Answered**
Chosen Option : --

Q.42 Thermodynamic wet bulb temperature, also known as _____, is the temperature at which air is brought to saturation state by the evaporation of water into the flowing air.

Ans
✓ 1. adiabatic saturation temperature
✗ 2. isentropic saturation temperature
✗ 3. isothermal saturation temperature
✗ 4. isobaric saturation temperature

Question ID : **6306801092710**
Option 1 ID : **6306804292094**
Option 2 ID : **6306804292095**
Option 3 ID : **6306804292096**
Option 4 ID : **6306804292097**
Status : **Not Answered**
Chosen Option : --

Q.43 Which of the following statements is true for the reheat factor?

Ans
✗ 1. Reheat factor is always equal to zero only.
✗ 2. Reheat factor is always greater than zero and less than unity.
✗ 3. Reheat factor varies from −0.2 to 0.8 only.
✓ 4. Reheat factor is greater than unity.

Question ID : **6306801093975**
Option 1 ID : **6306804297194**
Option 2 ID : **6306804297196**
Option 3 ID : **6306804297197**
Option 4 ID : **6306804297195**
Status : **Not Answered**
Chosen Option : --

Q.44 Which of the following parameters is NOT used in rating correction of the internal combustion engine?

Ans
✗ 1. Calorific value of fuel: ±10%
✗ 2. Pressure to intake duct : ±50 Pa
✗ 3. Engine speed: ±0.5% of measured speed
✓ 4. Torque : ±1% of measured torque

Question ID : **6306801098735**
Option 1 ID : **6306804316187**
Option 2 ID : **6306804316186**
Option 3 ID : **6306804316188**
Option 4 ID : **6306804316185**
Status : **Not Answered**
Chosen Option : --

Q.45 Why do slow speed two-stroke diesel engines operate continuously on heavy oil and only for maneuvering on diesel oil?

Ans
✗ 1. Higher specific gravity of heavy oil
✓ 2. Cost Saving
✗ 3. Higher flash point of heavy oil
✗ 4. Easy availability of heavy oil

Question ID : 6306801124348
Option 1 ID : 6306804417619
Option 2 ID : 6306804417616
Option 3 ID : 6306804417618
Option 4 ID : 6306804417617
Status : Not Answered
Chosen Option : --

Q.46 Which of the following is NOT a part of the reaction type steam turbine?

Ans
✓ 1. Penstock of turbine
✗ 2. Nozzle of turbine
✗ 3. Rotor of turbine
✗ 4. Casing of turbine

Question ID : 6306801094072
Option 1 ID : 6306804297576
Option 2 ID : 6306804297577
Option 3 ID : 6306804297575
Option 4 ID : 6306804297578
Status : Not Answered
Chosen Option : --

Q.47 A Flywheel is mounted on a cylindrical vertical shaft from 0.9 m from one of the fixed ends. Considering both the ends of the shaft are fixed, if the moment of inertia (J) of the shaft is 10×10^{-7} m4 and modulus rigidity (C) of the shaft is 81×10^{9} N/m^2, what is the torsional stiffness of the shaft?

Ans
✗ 1. 700 N-m
✓ 2. 900 N-m
✗ 3. 500 N-m
✗ 4. 1100 N-m

Question ID : 6306801097520
Option 1 ID : 6306804311351
Option 2 ID : 6306804311352
Option 3 ID : 6306804311350
Option 4 ID : 6306804311353
Status : Not Answered
Chosen Option : --

Q.48 Which of the following types of gears are used in the gas turbine gearing system?

Ans
✗ 1. Spiral gears
✗ 2. Spur gears
✗ 3. Rack and pinion gears
✓ 4. Helical gears

Question ID : 6306801095259
Option 1 ID : 6306804302276
Option 2 ID : 6306804302278
Option 3 ID : 6306804302279
Option 4 ID : 6306804302277
Status : Not Answered
Chosen Option : --

Q. 49 Which of the following equations represents the correct formula of whirling speed of shaft in revolution per second (rps)? Consider ω_n, – whirling speed of the shaft (Hz), s – stiffness of the shaft in N/m, mass of the shaft (m), speed (N_c) in rps, g – static deflection of the shaft in metres.

Ans
✗ 1. $N_c = 60 \times \frac{\sqrt{\frac{s \times \delta}{m}}}{2\pi}$ rps

✗ 2. $N_c = \frac{2\pi}{3}\sqrt{\frac{g}{\delta}}$ rps

✓ 3. $N_c = \frac{0.498}{\sqrt{\delta}}$ rps

✗ 4. $N_c = \frac{0.489}{2\pi\sqrt{\delta}}$ rps

Question ID : 630
Option 1 ID : 630
Option 2 ID : 630
Option 3 ID : 630
Option 4 ID : 630
Status : Not
Chosen Option : --

Q.50 Which of the following is the correct reason for providing the draft fan in the package boiler?

Ans
✗ 1. It helps in slow down combustion and draft in the furnace.

✓ 2. It helps in proper combustion and maintaining draft in the furnace.

✗ 3. It helps in increasing the surface area of fire tubes in steam drum of boiler.

✗ 4. It enhances the surrounding ventilation.

Question ID : 6306801095938
Option 1 ID : 6306804305077
Option 2 ID : 6306804305076
Option 3 ID : 6306804305078
Option 4 ID : 6306804305075
Status : Not Answered
Chosen Option : --

Q.51 Biological sewage plant on a ship utilises _____ process to treat sewage before discharging it into sea.

Ans
✗ 1. Disinfection

✓ 2. Aeration

✗ 3. Screening

✗ 4. Chemical

Question ID : 6306801105059
Option 1 ID : 6306804340767
Option 2 ID : 6306804340765
Option 3 ID : 6306804340766
Option 4 ID : 6306804340764
Status : Not Answered
Chosen Option : --

Q.52 What is the normal speed range for slow speed diesel engines?

Ans
✓ 1. 100-120 rev/min

✗ 2. 200-250 rev/min

✗ 3. 140-180 rev/min

✗ 4. 50-90 rev/min

Question ID : 6306801077787
Option 1 ID : 6306804233140
Option 2 ID : 6306804233142
Option 3 ID : 6306804233141
Option 4 ID : 6306804233139
Status : Not Answered
Chosen Option : --

Q.53 In a psychrometric chart, which of the following types of lines are drawn vertical or parallel to the ordinate and are uniformly spaced?

Ans
✗ 1. Moisture content lines
✓ 2. Dry bulb temperature lines
✗ 3. Dew point temperature lines
✗ 4. Wet bulb temperature lines

Question ID : **6306801092271**
Option 1 ID : **6306804290327**
Option 2 ID : **6306804290326**
Option 3 ID : **6306804290328**
Option 4 ID : **6306804290329**
Status : **Not Answered**
Chosen Option : --

Q.54 Which of the following devices is NOT the mounting of the boiler?

Ans
✓ 1. Superheater
✗ 2. Pressure gauge
✗ 3. Feed check valve
✗ 4. Boiler safety valve

Question ID : **6306801096804**
Option 1 ID : **6306804308497**
Option 2 ID : **6306804308498**
Option 3 ID : **6306804308499**
Option 4 ID : **6306804308496**
Status : **Not Answered**
Chosen Option : --

Q.55 Why is water washing NOT advisable for purifiers handling detergent-type lubricating oil?

Ans
✗ 1. Affects the bowl water seal
✗ 2. Impairs purification process
✓ 3. Removes water soluble additives from oil
✗ 4. Emulsifies the oil

Question ID : **6306801105045**
Option 1 ID : **6306804340711**
Option 2 ID : **6306804340708**
Option 3 ID : **6306804340709**
Option 4 ID : **6306804340710**
Status : **Not Answered**
Chosen Option : --

Q.56 Which of the following statements is correct regarding the diaphragm leakage of a steam turbine?

Ans
✗ 1. Leakage takes place in an impulse reaction stages through axial clearance between the stationary nozzle and rotating blades of the shaft.
✗ 2. Leakage takes place through radial clearance between shaft and casing at both high pressure and low pressure ends of turbine.
✓ 3. Leakage takes place in both reaction and impulse reaction stages through radial clearance between stationary nozzle diaphragm and shaft.
✗ 4. Leakage takes place in reaction stages through clearance between outer periphery of the moving blades and casing.

Question ID : **6306801094644**
Option 1 ID : **6306804299892**
Option 2 ID : **6306804299891**
Option 3 ID : **6306804299889**
Option 4 ID : **6306804299890**
Status : **Not Answered**
Chosen Option : --

Q.57 Which of the following is the correct equation of the frequency (Hz) for torsional vibration? Consider: I - Mass moment of inertia of disc in kg^{-m2} and q - Torsional stiffness of the shaft in N-m

Ans

✗ 1. $f_n = \frac{2\pi}{3}\sqrt{\frac{I}{q}}$

✗ 2. $f_n = \frac{2\pi}{3}\sqrt{\frac{q}{I}}$

✗ 3. $f_n = \frac{2}{\pi}\sqrt{\frac{I}{q}}$

✓ 4. $f_n = \frac{1}{2\pi}\sqrt{\frac{q}{I}}$

Question ID : **6306801097028**
Option 1 ID : **6306804309376**
Option 2 ID : **6306804309379**
Option 3 ID : **6306804309377**
Option 4 ID : **6306804309378**
Status : **Not Answered**
Chosen Option : **--**

Q.58 At which temperature will a stream of moist air, if passed through a coil, get cooled and dehumidified?

Ans

✗ 1. At a temperature that is higher than the dew point temperature of the incoming stream of moist air.

✗ 2. At a temperature that is lower than the dry bulb temperature of the outgoing stream of moist air.

✓ 3. At a temperature that is lower than the dew point temperature of the incoming stream of moist air.

✗ 4. At a temperature that is higher than the dry bulb temperature of the outgoing stream of moist air.

Question ID : **6306801093048**
Option 1 ID : **6306804293401**
Option 2 ID : **6306804293402**
Option 3 ID : **6306804293400**
Option 4 ID : **6306804293403**
Status : **Not Answered**
Chosen Option : **--**

Q.59 Which of the following is NOT the part of a layout for a diesel engine power plant?

Ans

✓ 1. Adequate space for oil storage, repair shop and office are usually not provided in the layout.

✗ 2. The air intake filters and mufflers are located outside.

✗ 3. The repairs and usual maintenance works require some space around the units.

✗ 4. The layout diesel engine units installed side by side with some room for extension in future.

Question ID : **6306801099596**
Option 1 ID : **6306804319642**
Option 2 ID : **6306804319641**
Option 3 ID : **6306804319640**
Option 4 ID : **6306804319639**
Status : **Not Answered**
Chosen Option : **--**

Q.60 What is the unit of combustion intensity of a gas turbine?

Ans

✗ 1. $kW \times atm/m^3$

✓ 2. $kW/m^3\ atm$

✗ 3. $kJ/m^3\ atm$

✗ 4. kW/m^2

Question ID : **6306801095284**
Option 1 ID : **6306804302378**
Option 2 ID : **6306804302377**
Option 3 ID : **6306804302379**
Option 4 ID : **6306804302376**
Status : **Not Answered**
Chosen Option : **--**

Q.61 Which of the following points is NOT considered during risk analysis tests under classification society rules on engine construction for ships?

Ans
✗ 1. Gas leakage downstream of the gas valve unit in the engine.
✗ 2. Malfunction of any system or component involved in the gas operation of the engine.
✗ 3. The safety of the engine in case of emergency shutdown or blackout, when running on gas.
✓ 4. The safety of the engine in case of heavy cyclone when running on gas, and is in middle of the ocean.

Question ID : **6306801099583**
Option 1 ID : **6306804319588**
Option 2 ID : **6306804319587**
Option 3 ID : **6306804319589**
Option 4 ID : **6306804319590**
Status : **Not Answered**
Chosen Option : **--**

Q.62 Ventilation and air conditioning systems on a ship must have ____ of air renewal for galley and sanitary spaces.

Ans
✗ 1. 80%
✗ 2. 70%
✗ 3. 90%
✓ 4. 100%

Question ID : **6306801112504**
Option 1 ID : **6306804370665**
Option 2 ID : **6306804370664**
Option 3 ID : **6306804370666**
Option 4 ID : **6306804370667**
Status : **Not Answered**
Chosen Option : **--**

Q.63 Currently, the following major sources of power are widely in use for deck machinery and cargo handling equipment onboard a ship, EXCEPT:

Ans
✓ 1. Pneumatic
✗ 2. Steam
✗ 3. Electric
✗ 4. Hydraulic

Question ID : **6306801112583**
Option 1 ID : **6306804370968**
Option 2 ID : **6306804370967**
Option 3 ID : **6306804370969**
Option 4 ID : **6306804370970**
Status : **Not Answered**
Chosen Option : **--**

Q.64 Magnetic strainers are used in lubricating oil systems to remove _____ from oil.

Ans
✗ 1. Non-ferrous Particles
✓ 2. Ferrous Particles
✗ 3. Carbon Particles
✗ 4. Dirt

Question ID : **6306801102118**
Option 1 ID : **6306804329710**
Option 2 ID : **6306804329711**
Option 3 ID : **6306804329709**
Option 4 ID : **6306804329712**
Status : **Not Answered**
Chosen Option : **--**

Q.65 What is the function of a calorifier on board a ship?

Ans
✗ 1. Pressure vessel
✗ 2. Steam generator
✓ 3. Water heater
✗ 4. Buffer tank

Question ID : 6306801090064
Option 1 ID : 6306804281427
Option 2 ID : 6306804281429
Option 3 ID : 6306804281428
Option 4 ID : 6306804281426
Status : Not Answered
Chosen Option : --

Q.66 Which of the following is NOT a correct function of lubricating oil used in a steam turbine?

Ans
✗ 1. Cooling of the bearings
✓ 2. Exerting the load on the shaft during low speed through hydrodynamic lubrication
✗ 3. Lubrication of shaft and bearings
✗ 4. Flushing out the metallic debris from bearings

Question ID : 6306801094945
Option 1 ID : 6306804301062
Option 2 ID : 6306804301063
Option 3 ID : 6306804301060
Option 4 ID : 6306804301061
Status : Not Answered
Chosen Option : --

Q.67 Which of the following sorbents are mainly used for absorption of sulphur dioxide during combustion in a circulating fluidised bed combustor?

Ans
✗ 1. Aluminum Oxide (Al_2O_3) and Silicon carbide (SiC)
✗ 2. Sodium chloride (NaCl) and Lead
✓ 3. Limestone ($CaCO_3$) and Dolomite ($MgCO_3$)
✗ 4. Dolomite ($CaCO_3$)and Sulphuric acid (H_2SO_4)

Question ID : 6306801096832
Option 1 ID : 6306804308602
Option 2 ID : 6306804308603
Option 3 ID : 6306804308601
Option 4 ID : 6306804308600
Status : Not Answered
Chosen Option : --

Q.68 The Ship Energy Efficiency Management Plan (SEEMP) came into force in the year _____.

Ans
✗ 1. 2014
✗ 2. 2015
✗ 3. 2016
✓ 4. 2013

Question ID : 6306801087447
Option 1 ID : 6306804271011
Option 2 ID : 6306804271012
Option 3 ID : 6306804271013
Option 4 ID : 6306804271010
Status : Not Answered
Chosen Option : --

Q.69 A type of steam turbine in which pressure drop of steam only happens in nozzles and there is no pressure drop as steam flows through the passage between two blades is known as ____ turbine.

Ans
✗ 1. reheat
✗ 2. condensing
✗ 3. reaction
✓ 4. impulse

Question ID : **6306801093888**
Option 1 ID : **6306804296857**
Option 2 ID : **6306804296855**
Option 3 ID : **6306804296854**
Option 4 ID : **6306804296856**
Status : **Not Answered**
Chosen Option : --

Q.70 In Cochran boiler, blow of valve is used for which of the following functions?

Ans
✗ 1. It is used to regulate the pressure in the drum and control the flow of steam exist to turbine.
✗ 2. It is used to prevent explosion due to high internal pressure.
✓ 3. It is used to remove periodically the sediments deposited at the bottom of the boiler during operation.
✗ 4. It is used to enter into the boiler drum for periodic maintenance.

Question ID : **6306801095965**
Option 1 ID : **6306804305186**
Option 2 ID : **6306804305183**
Option 3 ID : **6306804305185**
Option 4 ID : **6306804305184**
Status : **Not Answered**
Chosen Option : --

Q.71 Which of the following types of maintenance technique provides information about impeding failures of a component of machine?

Ans
✗ 1. Proactive maintenance philosophy
✓ 2. Condition monitoring of machines
✗ 3. Preventive maintenance of machines
✗ 4. Breakdown maintenance of machines

Question ID : **6306801099658**
Option 1 ID : **6306804319926**
Option 2 ID : **6306804319925**
Option 3 ID : **6306804319924**
Option 4 ID : **6306804319923**
Status : **Not Answered**
Chosen Option : --

Q.72 In a marine heat exchanger, what type of fluid flow pattern is usually available?

Ans
✓ 1. Counter Flow
✗ 2. Parallel Flow
✗ 3. Single Pass Flow
✗ 4. Cross Flow

Question ID : **6306801107462**
Option 1 ID : **6306804350307**
Option 2 ID : **6306804350306**
Option 3 ID : **6306804350309**
Option 4 ID : **6306804350308**
Status : **Not Answered**
Chosen Option : --

Q.73 Which device in the air starting system of a marine diesel engine mainly controls the direction of rotation of the engine?

Ans
✗ 1. Remote Operating Non-return Valve
✗ 2. Air Starting Valve
✓ 3. Air Distributor
✗ 4. Pilot Air Control Valve

Question ID : 6306801081381
Option 1 ID : 6306804247088
Option 2 ID : 6306804247087
Option 3 ID : 6306804247090
Option 4 ID : 6306804247089
Status : Not Answered
Chosen Option : --

Q.74 Deuterium is an isotope of which element?

Ans
✗ 1. Oxygen
✗ 2. Carbon
✓ 3. Hydrogen
✗ 4. Uranium

Question ID : 6306801095409
Option 1 ID : 6306804302875
Option 2 ID : 6306804302872
Option 3 ID : 6306804302873
Option 4 ID : 6306804302874
Status : Not Answered
Chosen Option : --

Q.75 The heating and humidification process is mainly used in which of the following applications?

Ans
✓ 1. Industrial air conditioning
✗ 2. Hospital room air conditioning
✗ 3. Sports stadium air conditioning
✗ 4. Residential building air conditioning

Question ID : 6306801092713
Option 1 ID : 6306804292107
Option 2 ID : 6306804292106
Option 3 ID : 6306804292109
Option 4 ID : 6306804292108
Status : Not Answered
Chosen Option : --

Q.76 Which of the following agencies issues classification society rules on engine construction for ships?

Ans
✓ 1. Indian Register of Shipping
✗ 2. Technical Institute of Oceanography
✗ 3. Indian Port Authority of India
✗ 4. Shipping Corporation of India

Question ID : 6306801099572
Option 1 ID : 6306804319545
Option 2 ID : 6306804319546
Option 3 ID : 6306804319544
Option 4 ID : 6306804319543
Status : Not Answered
Chosen Option : --

Q.77 Which of the following statements is NOT correct about propellers used in ships?

Ans
✗ 1. It is found that the fewer the number of blades, the higher the propeller efficiency.

✗ 2. Propellers can be manufactured with 2, 3, 4, 5, 6 or 7 blades.

✗ 3. To achieve low vibrations, 4 to 6 bladed propellers are normally used on merchant ships.

✓ 4. To achieve better strength and low vibrations, 9 to 11 bladed propellers are normally used on merchant ships,

Question ID : **6306801099542**
Option 1 ID : **6306804319420**
Option 2 ID : **6306804319419**
Option 3 ID : **6306804319422**
Option 4 ID : **6306804319421**
Status : **Not Answered**
Chosen Option : --

Q.78 Which of the following is the correct function of an air preheater in a steam generator?

Ans
✗ 1. It is a type of furnace that is used to supply hot air through fire tubes to the boiler for generating steam.

✓ 2. It is a type of heat exchanger in which hot flue gases transfer heat to the inlet air fed to the furnace.

✗ 3. It is a type of heat exchanger in which steam from superheater is used to transfers heat inlet air fed to the furnace.

✗ 4. It is a type of electric heater used for transferring the heat from inlet air to flue gases and creates forced draft in the furnace.

Question ID : **6306801096625**
Option 1 ID : **6306804307802**
Option 2 ID : **6306804307800**
Option 3 ID : **6306804307801**
Option 4 ID : **6306804307803**
Status : **Not Answered**
Chosen Option : --

Q.79 The main function of the lubricating oil system in every diesel engine is _____.

Ans
✓ 1. reducing the wear and tear of the engine

✗ 2. cooling the engine

✗ 3. cleaning the engine

✗ 4. heating the engine

Question ID : **6306801080206**
Option 1 ID : **6306804242691**
Option 2 ID : **6306804242689**
Option 3 ID : **6306804242690**
Option 4 ID : **6306804242692**
Status : **Not Answered**
Chosen Option : --

Q.80 The process of treatment of fresh water on a ship to make it suitable for drinking is called _____.

Ans
✓ 1. sterilisation

✗ 2. filtration

✗ 3. sanitisation

✗ 4. pasteurisation

Question ID : **6306801092506**
Option 1 ID : **6306804291297**
Option 2 ID : **6306804291296**
Option 3 ID : **6306804291294**
Option 4 ID : **6306804291295**
Status : **Not Answered**
Chosen Option : --

Q.81 The vapour refrigerant in the theoretical vapour compression cycle is compressed under which of the following conditions?

Ans
✗ 1. Isotropically compressed
✓ 2. Isentropically compressed
✗ 3. Isothermally compressed
✗ 4. Adiabatically compressed

Question ID : **6306801092006**
Option 1 ID : **6306804289285**
Option 2 ID : **6306804289284**
Option 3 ID : **6306804289282**
Option 4 ID : **6306804289283**
Status : **Not Answered**
Chosen Option : --

Q.82 Engine Output Shaft Power = Torque × _____.

Ans
✓ 1. Angular Velocity
✗ 2. Average Velocity
✗ 3. Instantaneous Velocity
✗ 4. Uniform Velocity

Question ID : **6306801078529**
Option 1 ID : **6306804236010**
Option 2 ID : **6306804236009**
Option 3 ID : **6306804236012**
Option 4 ID : **6306804236011**
Status : **Not Answered**
Chosen Option : --

Q.83 How are turbochargers on modern marine diesel engines driven?

Ans
✓ 1. By exhaust gas
✗ 2. By an electric motor
✗ 3. By an air motor
✗ 4. By a hydraulic motor

Question ID : **6306801079713**
Option 1 ID : **6306804240734**
Option 2 ID : **6306804240733**
Option 3 ID : **6306804240735**
Option 4 ID : **6306804240736**
Status : **Not Answered**
Chosen Option : --

Q.84 How is the fuel oil temperature controlled in a marine diesel engine operating on heavy oil?

Ans
✗ 1. By the pressure regulator
✗ 2. By the flow regulator
✗ 3. By the bypass regulator
✓ 4. By the viscosity regulator

Question ID : **6306801079773**
Option 1 ID : **6306804240969**
Option 2 ID : **6306804240971**
Option 3 ID : **6306804240972**
Option 4 ID : **6306804240970**
Status : **Not Answered**
Chosen Option : --

Q.85 Which of the following types of thermodynamic cycles is used in a gas turbine?

Ans
✗ 1. Reverse Carnot cycle
✗ 2. Rankine cycle
✓ 3. Open Brayton cycle
✗ 4. Dual cycle

Question ID : **6306801095010**
Option 1 ID : **6306804301316**
Option 2 ID : **6306804301318**
Option 3 ID : **6306804301317**
Option 4 ID : **6306804301319**
Status : **Not Answered**
Chosen Option : --

Q.86 The specific humidity of air at inlet point (w_1) is 1 kg/kg of dry air and mass of air flow (m_a) is 60 kg/min. What is the specific humidity of the leaving air (w_2) if dry saturated steam at temperature 100°C is injected into the air steam at the rate (m_s) of 180 kg/h?

Ans
✔ 1. $W_2 = \frac{21}{20}$ kg/kg of dry air
✘ 2. $W_2 = \frac{11}{12}$ kg/kg of dry air
✘ 3. $W_2 = \frac{10}{21}$ kg/kg of dry air
✘ 4. $W_2 = \frac{21}{10}$ kg/kg of dry air

Question ID : **6306801092874**
Option 1 ID : **6306804292720**
Option 2 ID : **6306804292722**
Option 3 ID : **6306804292723**
Option 4 ID : **6306804292721**
Status : **Not Answered**
Chosen Option : **--**

Q.87 Which of the following statements is correct regarding the gland leakage of the steam turbine?

Ans
✔ 1. Leakage of steam from radial clearance between shaft and casing at both high and low pressure end of the turbine.
✘ 2. Leakage of steam from radial clearance between shaft and governor at high pressure end of the turbine only.
✘ 3. Leakage of steam from axial clearance between governor and casing at low pressure end of the turbine only.
✘ 4. Leakage of steam from radial clearance between shaft and governor at low pressure end of the turbine only.

Question ID : **6306801094595**
Option 1 ID : **6306804299703**
Option 2 ID : **6306804299701**
Option 3 ID : **6306804299704**
Option 4 ID : **6306804299702**
Status : **Not Answered**
Chosen Option : **--**

Q.88 Which of following components is NOT a part of the double evaporation boiler?

Ans
✔ 1. Fire tubes
✘ 2. U type water tubes
✘ 3. Superheater
✘ 4. Steam generator drum

Question ID : **6306801096297**
Option 1 ID : **6306804306503**
Option 2 ID : **6306804306504**
Option 3 ID : **6306804306506**
Option 4 ID : **6306804306505**
Status : **Not Answered**
Chosen Option : **--**

Q.89 On what principle does a centrifuge work to separate oil from water and other contaminants?

Ans
✘ 1. Speed difference
✘ 2. Chemical composition difference
✘ 3. Volume difference
✔ 4. Density difference

Question ID : **6306801102161**
Option 1 ID : **6306804329884**
Option 2 ID : **6306804329881**
Option 3 ID : **6306804329883**
Option 4 ID : **6306804329882**
Status : **Not Answered**
Chosen Option : **--**

Q.90 Normally, up-to which level is water maintained in the steam drum by feed water pump during plant operation?

Ans
✗ 1. $\frac{1}{4}$ level of the steam drum is maintained with feed water.

✗ 2. $\frac{1}{3}$ level of the steam drum is maintained with feed water.

✗ 3. Full level of the steam drum is maintained with feed water.

✓ 4. $\frac{1}{2}$ level of the steam drum is maintained with feed water.

Question ID : **6306801096951**
Option 1 ID : **6306804309070**
Option 2 ID : **6306804309069**
Option 3 ID : **6306804309071**
Option 4 ID : **6306804309068**
Status : **Not Answered**
Chosen Option : --

Q.91 The power correction factor in 'rating correction of internal combustion engine' is the coefficient by which the measured power:

Ans
✗ 1. must be added to determine the engine power under the reference atmospheric humidity level

✓ 2. must be multiplied to determine the engine power under the reference atmospheric conditions

✗ 3. must be subtracted to determine the engine torque under the reference atmospheric conditions

✗ 4. must be divided to determine the engine power under the reference atmospheric pressure

Question ID : **6306801098767**
Option 1 ID : **6306804316315**
Option 2 ID : **6306804316313**
Option 3 ID : **6306804316314**
Option 4 ID : **6306804316316**
Status : **Not Answered**
Chosen Option : --

Q.92 Which of the following statements regarding pressurised water reactor is NOT true?

Ans
✗ 1. PWR power plant consists of two loops in series, coolant loop and working fluid loop.

✓ 2. The coolant is used in Rankine cycle to produce electricity.

✗ 3. The steam is used in Rankine cycle to produce electricity from the nuclear reactor.

✗ 4. The coolant picks up the heat from the reactor and transfers it to the working fluid in the steam generator.

Question ID : **6306801095641**
Option 1 ID : **6306804303901**
Option 2 ID : **6306804303903**
Option 3 ID : **6306804303904**
Option 4 ID : **6306804303902**
Status : **Not Answered**
Chosen Option : --

Q.93 In which of the following applications is the composite boiler the most commonly used?

Ans
✗ 1. It is used for driving trains and as a heavy crane's locomotive engine.

✓ 2. It is considered as a small auxiliary boiler and is only used for generating steam for auxiliary purposes.

✗ 3. It is used in ultra high capacity electricity generation power plant.

✗ 4. It is used in marine application for generation less than 5MW electric power plant.

Question ID : **6306801096014**
Option 1 ID : **6306804305380**
Option 2 ID : **6306804305379**
Option 3 ID : **6306804305381**
Option 4 ID : **6306804305382**
Status : **Not Answered**
Chosen Option : --

Q.94 The gear box used between a medium speed engine and propeller shaft on a ship is always _____.

Ans
✗ 1. multiple reduction
✗ 2. double reduction
✓ 3. single reduction
✗ 4. triple reduction

Question ID : 6306801084793
Option 1 ID : 6306804260708
Option 2 ID : 6306804260706
Option 3 ID : 6306804260705
Option 4 ID : 6306804260707
Status : Not Answered
Chosen Option : --

Q.95 Which of the following processes of mixing of air, humid air or cold air, will result in generation of fog?

Ans
✗ 1. When air with low humidity is mixed with warm dry air.
✗ 2. When dry air is mixed with cold water.
✓ 3. When warm and highly humid air is mixed with cold air.
✗ 4. When humid air is mixed with cold water spray.

Question ID : 6306801093029
Option 1 ID : 6306804293335
Option 2 ID : 6306804293334
Option 3 ID : 6306804293332
Option 4 ID : 6306804293333
Status : Not Answered
Chosen Option : --

Q.96 Which of the following is the simplest form of automation used to control a process of ship propulsion plants?

Ans
✗ 1. Level 5: Basic operation / Human controls the vessel
✗ 2. Level 0: Autonomous / Hands-off, eyes-off, mind-off = human-of
✓ 3. Level 0: Basic operation / Human controls the vessel
✗ 4. Level 2: Partial automation / Hands-off (sometimes), eyes-on, mind-on

Question ID : 6306801099633
Option 1 ID : 6306804319788
Option 2 ID : 6306804319790
Option 3 ID : 6306804319787
Option 4 ID : 6306804319789
Status : Not Answered
Chosen Option : --

Q.97 Which of the following statements is correct about the excess presence of hydrogen ions in feedwater?

Ans
✗ 1. The presence of hydrogen cations makes water basic and hence germs breed.
✗ 2. The presence of hydrogen cations makes water heavy and hence boiling temperature of feedwater increases.
✓ 3. The presence of hydrogen ions makes water acidic and hence corrosive.
✗ 4. The presence of hydrogen ions makes water lighter and hence boiling temperature of feedwater decreases.

Question ID : 6306801097001
Option 1 ID : 6306804309269
Option 2 ID : 6306804309271
Option 3 ID : 6306804309268
Option 4 ID : 6306804309270
Status : Not Answered
Chosen Option : --

Q.98 A diesel engine is either a _____ stroke or a/an _____ stroke engine.

Ans
✗ 1. six; eight
✗ 2. one; three
✗ 3. three; five
✓ 4. two; four

Question ID : **6306801073347**
Option 1 ID : **6306804215537**
Option 2 ID : **6306804215534**
Option 3 ID : **6306804215536**
Option 4 ID : **6306804215535**
Status : **Not Answered**
Chosen Option : --

Q.99 What types of pumps have maximum applications on board a ship?

Ans
✗ 1. Axial Flow
✗ 2. Hydraulic
✗ 3. Displacement
✓ 4. Centrifugal

Question ID : **6306801089927**
Option 1 ID : **6306804280899**
Option 2 ID : **6306804280901**
Option 3 ID : **6306804280898**
Option 4 ID : **6306804280900**
Status : **Not Answered**
Chosen Option : --

Q.100 The SI unit for specific fuel consumption of diesel propulsion ships is _____.

Ans
✓ 1. kg/kWh
✗ 2. kg/BHPh
✗ 3. l/kWhr
✗ 4. l/BHPh

Question ID : **6306801086978**
Option 1 ID : **6306804269174**
Option 2 ID : **6306804269175**
Option 3 ID : **6306804269176**
Option 4 ID : **6306804269177**
Status : **Not Answered**
Chosen Option : --

Section : **Technical Part Naval Architecture**

Q.1 If a ship's rudder is put hard over to port, then the ship will _____.

Ans
✗ 1. heel to starboard as forces on the rudder is greater than the centrifugal force acting on the ship
✗ 2. heel to port as forces on the rudder is greater than the centrifugal force acting on the ship
✓ 3. heel to starboard as the centrifugal force acting on the ship is greater than forces on the rudder
✗ 4. heel to port as the centrifugal force acting on the ship is greater than forces on the rudder

Question ID : **6306801106305**
Option 1 ID : **6306804345651**
Option 2 ID : **6306804345652**
Option 3 ID : **6306804345650**
Option 4 ID : **6306804345653**
Status : **Not Answered**
Chosen Option : --

Q.2 The lift coefficient for a rudder, at an angle of attack that is smaller than the stall angle, _____ with a/an _____ in the aspect ratio of the rudder.

Ans
✗ 1. increases; decrease
✗ 2. decreases; increase
✗ 3. decreases; decrease
✓ 4. increases; increase

Question ID : 6306801142670
Option 1 ID : 6306804490944
Option 2 ID : 6306804490945
Option 3 ID : 6306804490946
Option 4 ID : 6306804490947
Status : Not Answered
Chosen Option : --

Q.3 In a bulk carrier, the angle of list due to cargo grain shifting can be found from the GZ righting curve by:

Ans
✓ 1. intersection of the GZ curve and the grain heeling line
✗ 2. intersection of the slope of GZ curve at origin with the grain heeling line
✗ 3. intersection of the perpendicular from maximum GZ value and the grain heeling line
✗ 4. intersection of the slope of the curve with perpendicular at maximum GZ value

Question ID : 6306801107372
Option 1 ID : 6306804349948
Option 2 ID : 6306804349946
Option 3 ID : 6306804349949
Option 4 ID : 6306804349947
Status : Not Answered
Chosen Option : --

Q.4 Stability reference points that would definitely change its position at larger angles of heel of a ship are:

Ans
✗ 1. centre of gravity, centre of floatation and centre of buoyancy
✗ 2. centre of floatation and centre of buoyancy only
✓ 3. metacentre and centre of buoyancy only
✗ 4. metacentre, centre of floatation and centre of buoyancy

Question ID : 6306801107176
Option 1 ID : 6306804349162
Option 2 ID : 6306804349164
Option 3 ID : 6306804349165
Option 4 ID : 6306804349163
Status : Not Answered
Chosen Option : --

Q.5 A vessel when loaded with a weight at its centre of gravity which is distinct from its tipping centre, will definitely experience:

Ans
✗ 1. change of draft and no change of trim
✓ 2. change of draft and change of trim
✗ 3. no change of heel and change of trim
✗ 4. change of heel and no change of trim

Question ID : 6306801106320
Option 1 ID : 6306804345718
Option 2 ID : 6306804345720
Option 3 ID : 6306804345721
Option 4 ID : 6306804345719
Status : Not Answered
Chosen Option : --

Q.6 To maintain stable equilibrium of a ship, it is always preferred to load cargo _____.

Ans
✗ 1. athwartship with respect to the centre of gravity position

✗ 2. above the centre of gravity position

✗ 3. at the centre of gravity position

✓ 4. below the centre of gravity position

Question ID : **6306801106332**
Option 1 ID : **6306804345767**
Option 2 ID : **6306804345769**
Option 3 ID : **6306804345766**
Option 4 ID : **6306804345768**
Status : **Not Answered**
Chosen Option : --

Q.7 The function of the overall propeller efficiency of a marine propellor does NOT depend on:

Ans
✗ 1. thrust of the propeller

✗ 2. torque of the propeller

✓ 3. speed of the ship

✗ 4. rate of revolution

Question ID : **6306801109575**
Option 1 ID : **6306804358956**
Option 2 ID : **6306804358957**
Option 3 ID : **6306804358959**
Option 4 ID : **6306804358958**
Status : **Not Answered**
Chosen Option : --

Q.8 Select the INCORRECT statement with regard to stability and control in horizontal and vertical plane of a ship that is making a turn.

Ans
✗ 1. For a ship which is dynamically unstable, with rudder to starboard, the ship will turn to port; whereas with rudder to port, the ship will turn to starboard.

✗ 2. During a turn, the moment of inertia and added moment of inertia are mainly determined by the principal dimensions and ship form coefficients which are chosen according to other ship performances

✗ 3. At the rudder turning phase, a positive rudder angle will create a positive sway acceleration and a negative yaw acceleration.

✓ 4. Large ships with full form such as VLCC are usually dynamically unstable and have poor initial turning ability and course changing ability.

Question ID : **6306801145751**
Option 1 ID : **6306804503199**
Option 2 ID : **6306804503198**
Option 3 ID : **6306804503197**
Option 4 ID : **6306804503196**
Status : **Not Answered**
Chosen Option : --

Q.9 Select the factor which will NOT cause any loss of righting lever (GZ) of a seagoing ship.

Ans
✗ 1. Increase in KG value

✗ 2. Increase in angle of list or heel

✓ 3. Increasing beam for constant draught and freeboard

✗ 4. Decrease in freeboard

Question ID : **6306801107817**
Option 1 ID : **6306804351726**
Option 2 ID : **6306804351725**
Option 3 ID : **6306804351724**
Option 4 ID : **6306804351723**
Status : **Not Answered**
Chosen Option : --

Q.10 A typical value of the tipping coefficient considered in motion-induced interruptions of a ship seakeeping analysis is:

Ans
✔ 1. 0.25
✘ 2. 0.9
✘ 3. 0.45
✘ 4. 0.1

Question ID : 6306801125571
Option 1 ID : 6306804422482
Option 2 ID : 6306804422484
Option 3 ID : 6306804422483
Option 4 ID : 6306804422481
Status : Not Answered
Chosen Option : --

Q.11 As per 1978 ITTC Resistance Prediction Method for computation of ships hull roughness allowance C_A, we consider:

Ans
✔ 1. LWL
✘ 2. LOA
✘ 3. wetted surface area
✘ 4. form factor component (1+k)

Question ID : 6306801109327
Option 1 ID : 6306804357910
Option 2 ID : 6306804357909
Option 3 ID : 6306804357908
Option 4 ID : 6306804357911
Status : Not Answered
Chosen Option : --

Q.12 Which of the following is NOT true about a controllable pitch propeller used in ships?

Ans
✘ 1. Constant thrust available for various degrees of loading
✔ 2. Low initial price and maintenance cost
✘ 3. Better acceleration and deceleration
✘ 4. Complicated construction

Question ID : 6306801110075
Option 1 ID : 6306804361033
Option 2 ID : 6306804361034
Option 3 ID : 6306804361035
Option 4 ID : 6306804361032
Status : Not Answered
Chosen Option : --

Q.13 Select the hydrostatic particular that would decrease with increase in draft of a foreign going ship from the keel of the ship.

Ans
✘ 1. KB
✘ 2. Displacement
✘ 3. MCT
✔ 4. KM

Question ID : 6306801106715
Option 1 ID : 6306804347324
Option 2 ID : 6306804347327
Option 3 ID : 6306804347326
Option 4 ID : 6306804347325
Status : Not Answered
Chosen Option : --

Q.14 In anti-roll devices, the Fin Stabiliser on-board a ship is an example of _____.

Ans
✔ 1. active anti-rolling device
✘ 2. active anti-pitching and rolling device
✘ 3. active anti-heaving motion
✘ 4. passive anti-rolling device

Question ID : 6306801125615
Option 1 ID : 6306804422658
Option 2 ID : 6306804422657
Option 3 ID : 6306804422659
Option 4 ID : 6306804422660
Status : Not Answered
Chosen Option : --

Q.15 A horizontal plate that is a primary member found in a ship's side shell to improve its longitudinal strength and bending strength is called a/an _____.

Ans
✗ 1. Oxter Plate
✓ 2. Stringer Plate
✗ 3. Gusset Plate
✗ 4. Margin Plate

Question ID : 6306801142720
Option 1 ID : 6306804491136
Option 2 ID : 6306804491138
Option 3 ID : 6306804491139
Option 4 ID : 6306804491137
Status : Not Answered
Chosen Option : --

Q.16 Select the basic feature that does NOT affect the floodable curves for a ship.

Ans
✓ 1. Midship coefficient
✗ 2. Sheer ratio
✗ 3. Freeboard ratio
✗ 4. Permeability

Question ID : 6306801107859
Option 1 ID : 6306804351881
Option 2 ID : 6306804351882
Option 3 ID : 6306804351883
Option 4 ID : 6306804351884
Status : Not Answered
Chosen Option : --

Q.17 Free surface effect from any tank inside the ship does NOT depend on:

Ans
✗ 1. density of water in which the ship is afloat
✗ 2. density of liquid inside the tank
✓ 3. depth of the ship
✗ 4. length of the tank

Question ID : 6306801107081
Option 1 ID : 6306804348787
Option 2 ID : 6306804348788
Option 3 ID : 6306804348790
Option 4 ID : 6306804348789
Status : Not Answered
Chosen Option : --

Q.18 Critical stress in elastic buckling of rectangular plates is best defined as:

Ans
✗ 1. the failure of a material from repeated application of stress such as vibration
✗ 2. the maximum stress at which slow plastic deformation of a rectangular plate occurs due to an applied stress greater than the yield stress
✗ 3. the minimum stress at which slow plastic deformation of a rectangular plate occurs due to an applied stress greater than the yield stress
✓ 4. the highest value of compressive stress in the plane of the initially flat plate for which a non-zero out-of-plane deflection of the middle portion of the plate can exist

Question ID : 6306801132276
Option 1 ID : 6306804449217
Option 2 ID : 6306804449215
Option 3 ID : 6306804449214
Option 4 ID : 6306804449216
Status : Not Answered
Chosen Option : --

Q.19 Select the material that is NOT used for the manufacture of a marine propeller.

Ans
✔ 1. Manganese nickel steel
✘ 2. Nickel aluminium bronze
✘ 3. Chromium nickel steel
✘ 4. Manganese bronze

Question ID : **6306801110088**
Option 1 ID : **6306804361082**
Option 2 ID : **6306804361080**
Option 3 ID : **6306804361083**
Option 4 ID : **6306804361081**
Status : **Not Answered**
Chosen Option : --

Q.20 Tonnes per cm immersion (TPC) of an aircraft carrier vessel _____as its freeboard decreases in sea water.

Ans
✘ 1. decreases
✘ 2. first decreases then increases
✔ 3. increases
✘ 4. first increases then decreases

Question ID : **6306801106045**
Option 1 ID : **6306804344470**
Option 2 ID : **6306804344471**
Option 3 ID : **6306804344473**
Option 4 ID : **6306804344472**
Status : **Not Answered**
Chosen Option : --

Q.21 As a submarine goes down in water, its buoyancy:

Ans
✘ 1. increases
✔ 2. decreases
✘ 3. remains the same
✘ 4. first increases and then decreases

Question ID : **6306801106490**
Option 1 ID : **6306804346420**
Option 2 ID : **6306804346421**
Option 3 ID : **6306804346418**
Option 4 ID : **6306804346419**
Status : **Not Answered**
Chosen Option : --

Q.22 The positive displacement of the leading edge or trailing edge of a marine propeller blade section from the face pitch datum line when section shape is referenced to that line is NOT called:

Ans
✘ 1. set-back
✘ 2. wash-back
✘ 3. wash-up
✔ 4. wash-down

Question ID : **6306801109538**
Option 1 ID : **6306804358795**
Option 2 ID : **6306804358792**
Option 3 ID : **6306804358793**
Option 4 ID : **6306804358794**
Status : **Not Answered**
Chosen Option : --

Q.23 The ratio of (underwater volume of ship) to the (product of length of the ship and immersed midship cross section) is called:

Ans
✗ 1. coefficient of form
✗ 2. block coefficient
✓ 3. prismatic coefficient
✗ 4. midship coefficient

Question ID : 6306801106741
Option 1 ID : 6306804347428
Option 2 ID : 6306804347430
Option 3 ID : 6306804347431
Option 4 ID : 6306804347429
Status : Not Answered
Chosen Option : --

Q.24 In a bulk carrier, the angle of list due to cargo grain shifting can be found from the GZ curve by:

Ans
✓ 1. intersection of the GZ curve and the grain heeling line
✗ 2. intersection of slope of the curve with perpendicular at maximum GZ value
✗ 3. intersection of the slope of GZ curve at origin with the grain heeling line
✗ 4. intersection of the perpendicular from Maximum GZ value and the grain heeling line

Question ID : 6306801107408
Option 1 ID : 6306804350092
Option 2 ID : 6306804350091
Option 3 ID : 6306804350090
Option 4 ID : 6306804350093
Status : Not Answered
Chosen Option : --

Q.25 Factor of subdivision used in floodable length curves to determine damage stability characteristics of a ship is numerically equal to:

Ans
✗ 1. inverse of permissible length
✗ 2. floodable length divided by permissible length
✗ 3. floodable length multiplied by permissible length
✓ 4. inverse of criteria of service numeral

Question ID : 6306801107867
Option 1 ID : 6306804351913
Option 2 ID : 6306804351915
Option 3 ID : 6306804351916
Option 4 ID : 6306804351914
Status : Not Answered
Chosen Option : --

Q.26 Computation of stress and deflection of a single panel of stiffened plating is considered as the:

Ans
✗ 1. mixed response
✗ 2. primary response
✓ 3. secondary response
✗ 4. tertiary response

Question ID : 6306801132223
Option 1 ID : 6306804449004
Option 2 ID : 6306804449002
Option 3 ID : 6306804449005
Option 4 ID : 6306804449003
Status : Not Answered
Chosen Option : --

Q.27 During dry-docking of a ship, the interval of time between the stern post landing on the blocks and the ship taking the blocks is called:

Ans
✔ 1. critical period
✘ 2. settling period
✘ 3. period of encounter
✘ 4. transfer time

Question ID : 6306801108706
Option 1 ID : 6306804355269
Option 2 ID : 6306804355267
Option 3 ID : 6306804355268
Option 4 ID : 6306804355266
Status : Not Answered
Chosen Option : --

Q.28 Which of the following methods is NOT an example for determining the bending moments on individual structural members?

Ans
✘ 1. Moment distribution method
✘ 2. Strain energy method
✘ 3. Matrix method
✔ 4. Murray's method

Question ID : 6306801132209
Option 1 ID : 6306804448938
Option 2 ID : 6306804448940
Option 3 ID : 6306804448939
Option 4 ID : 6306804448941
Status : Not Answered
Chosen Option : --

Q.29 The maximum gap between transverse bulkheads in a ship is decided based on values of:

Ans
✔ 1. floodable length calculations
✘ 2. net tonnage of the vessel
✘ 3. deadweight of the ship
✘ 4. fire triangle coordinates

Question ID : 6306801107838
Option 1 ID : 6306804351805
Option 2 ID : 6306804351803
Option 3 ID : 6306804351806
Option 4 ID : 6306804351804
Status : Not Answered
Chosen Option : --

Q.30 The steel alloy which is NOT being used in shipbuilding is _____.

Ans
✘ 1. Austenitic steel
✘ 2. Martensitic steel
✘ 3. Eutectoid steel
✔ 4. Eutectic steel

Question ID : 6306801132147
Option 1 ID : 6306804448701
Option 2 ID : 6306804448699
Option 3 ID : 6306804448702
Option 4 ID : 6306804448700
Status : Not Answered
Chosen Option : --

Q.31 Which of the following statements is INCORRECT with regards to jib cranes used for cargo handling in ship operations?

Ans
✘ 1. They have far outreach in the scope of cargo handling.
✘ 2. They are self supporting.
✘ 3. They have a counterbalance weight.
✔ 4. Their lifting capacities are greater than top running cranes.

Question ID : 6306801132172
Option 1 ID : 6306804448799
Option 2 ID : 6306804448801
Option 3 ID : 6306804448800
Option 4 ID : 6306804448798
Status : Not Answered
Chosen Option : --

Q.32 Initial GM for a ship is found from the GZ curve by:

Ans
✗ 1. value of ordinate at an angle of heel equal to 53.3 radians
✗ 2. slope of the curve at an angle of heel equal to 53.3 radians
✗ 3. ordinate formed by slope at origin meeting a vertical line drawn from 53.3 radians
✓ 4. ordinate formed by slope at origin meeting a vertical line drawn from 1 radian

Question ID : **6306801106779**
Option 1 ID : **6306804347581**
Option 2 ID : **6306804347580**
Option 3 ID : **6306804347583**
Option 4 ID : **6306804347582**
Status : **Not Answered**
Chosen Option : --

Q.33 An ordinate of BP -δ diagram is _____, which is used in a marine propeller design.

Ans
✓ 1. pitch ratio
✗ 2. advance coefficient
✗ 3. blade area ratio
✗ 4. Froude number

Question ID : **6306801109627**
Option 1 ID : **6306804359198**
Option 2 ID : **6306804359199**
Option 3 ID : **6306804359197**
Option 4 ID : **6306804359196**
Status : **Not Answered**
Chosen Option : --

Q.34 Frictional resistance decreases when the draft decreases because _____.

Ans
✗ 1. waterplane area decreases
✓ 2. wetted surface area decreases
✗ 3. displacement of the vessel decreases
✗ 4. water pressure decreases with depth

Question ID : **6306801108748**
Option 1 ID : **6306804355492**
Option 2 ID : **6306804355490**
Option 3 ID : **6306804355491**
Option 4 ID : **6306804355493**
Status : **Not Answered**
Chosen Option : --

Q.35 Which of the following is the most widely used welding technique for ships constructed with Aluminium alloy?

Ans
✗ 1. Laser welding
✓ 2. Friction stir welding (FSW)
✗ 3. Submerged arc welding
✗ 4. Electro gas welding

Question ID : **6306801142698**
Option 1 ID : **6306804491054**
Option 2 ID : **6306804491052**
Option 3 ID : **6306804491053**
Option 4 ID : **6306804491055**
Status : **Not Answered**
Chosen Option : --

Q.36 A type of failure least important in ships is:

Ans
✗ 1. Compressive Yielding
✗ 2. Fatigue Failure
✗ 3. Buckling Failure
✓ 4. Creep Failure

Question ID : **6306801134492**
Option 1 ID : **6306804458078**
Option 2 ID : **6306804458077**
Option 3 ID : **6306804458080**
Option 4 ID : **6306804458079**
Status : **Not Answered**
Chosen Option : --

Q.37 During a ship model test, the transverse and divergent waves generated by the model in a towing tank can be attenuated by:

Ans
✗ 1. gratings along the basin ends

✗ 2. rafts along the basin ends

✗ 3. an effective beach along the side walls

✓ 4. a fall where the water in the crests of the waves pass above an edge and fall down into a pit

Question ID : **6306801109317**
Option 1 ID : **6306804357869**
Option 2 ID : **6306804357868**
Option 3 ID : **6306804357870**
Option 4 ID : **6306804357871**
Status : **Not Answered**
Chosen Option : --

Q.38 If an inclining experiment is conducted on different ship types having the same dimensions such length, breadth etc., the metacentric height is found to be maximum in which type of ship for good initial stability at fully loaded condition?

Ans
✗ 1. Oil tanker

✓ 2. Bulk carrier

✗ 3. General cargo ship

✗ 4. Container

Question ID : **6306801106863**
Option 1 ID : **6306804347917**
Option 2 ID : **6306804347918**
Option 3 ID : **6306804347916**
Option 4 ID : **6306804347919**
Status : **Not Answered**
Chosen Option : --

Q.39 The modal period in an ocean wave sample acting on a ship represents the ____.

Ans
✓ 1. waves of the highest spectral density

✗ 2. waves of the highest amplitude

✗ 3. waves of the highest frequency

✗ 4. waves of the highest energy

Question ID : **6306801118089**
Option 1 ID : **6306804392801**
Option 2 ID : **6306804392798**
Option 3 ID : **6306804392799**
Option 4 ID : **6306804392800**
Status : **Not Answered**
Chosen Option : --

Q.40 Finite element methods are NOT reliable for solving equations in ship hydrodynamics because _____.

Ans
✗ 1. determination of errors is not easily possible

✓ 2. discretisation errors lead to violation of conservation of mass

✗ 3. grid generation and computation is complicated

✗ 4. errors at exit face cancel errors at entry face of the cell

Question ID : **6306801142693**
Option 1 ID : **6306804491033**
Option 2 ID : **6306804491032**
Option 3 ID : **6306804491035**
Option 4 ID : **6306804491034**
Status : **Not Answered**
Chosen Option : --

Q.41 In a ship's plating system, a garboard strake can be described as:

Ans
✗ 1. a plating connecting the deck and the side shell
✗ 2. a plating connecting the breast hook and the stem bar
✗ 3. a single wide plate that replaces two narrow plates in adjacent frames
✓ 4. a plating connecting the keel and the bilge

Question ID : 6306801142703
Option 1 ID : 6306804491074
Option 2 ID : 6306804491072
Option 3 ID : 6306804491075
Option 4 ID : 6306804491073
Status : Not Answered
Chosen Option : --

Q.42 For a ship whose centre of gravity (G) is located below the main deck at half of the ship's depth along the centreline, complete filling of port side hopper tank will lead to which of the following changes in the position of G from its initial position?

Ans
✗ 1. Fall in centre of gravity towards starboard
✗ 2. Rise in centre of gravity towards starboard
✓ 3. Rise in centre of gravity towards port
✗ 4. Fall in centre of gravity towards port

Question ID : 6306801106985
Option 1 ID : 6306804348404
Option 2 ID : 6306804348406
Option 3 ID : 6306804348403
Option 4 ID : 6306804348405
Status : Not Answered
Chosen Option : --

Q.43 Which of the following is NOT a limitation of the simple beam theory used in strength analysis of ships?

Ans
✗ 1. The plane section cannot remain plane.
✗ 2. Hull girder has large openings and discontinuities.
✗ 3. Torsion and shear can distort the cross-section leading to warping.
✓ 4. Longitudinal distortion cannot occur.

Question ID : 6306801143951
Option 1 ID : 6306804495996
Option 2 ID : 6306804495995
Option 3 ID : 6306804495994
Option 4 ID : 6306804495993
Status : Not Answered
Chosen Option : --

Q.44 Tripping brackets found inside the double bottom floors in a ship are for strengthening:

Ans
✗ 1. cargo tanks
✗ 2. peak tanks
✗ 3. collision bulkheads
✓ 4. machinery foundation

Question ID : 6306801132164
Option 1 ID : 6306804448767
Option 2 ID : 6306804448769
Option 3 ID : 6306804448766
Option 4 ID : 6306804448768
Status : Not Answered
Chosen Option : --

Q.45 The motion that is NOT a major consideration for a catamaran vessel operation is:

Ans
✗ 1. heave
✓ 2. yaw
✗ 3. roll
✗ 4. pitching

Question ID : 6306801125731
Option 1 ID : 6306804423118
Option 2 ID : 6306804423120
Option 3 ID : 6306804423119
Option 4 ID : 6306804423117
Status : Not Answered
Chosen Option : --

Q.46 Point of inflection in the righting arm curve for a ship is NOT described as which of the following?

Ans
✗ 1. Point where slope of curve changes from decreasing to increasing

✗ 2. Point where slope of curve changes from increasing to decreasing

✗ 3. Point where deck immerses in water

✓ 4. Point of Maxima in GZ curve

Question ID : **6306801107656**
Option 1 ID : **6306804351085**
Option 2 ID : **6306804351084**
Option 3 ID : **6306804351083**
Option 4 ID : **6306804351086**
Status : **Not Answered**
Chosen Option : --

Q.47 For a ship whose centre of gravity (G) is located below the main deck along the centreline, removal of a weight placed on the deck from starboard side will lead to which of the following changes in the position of G from its initial position?

Ans
✗ 1. Fall in centre of gravity towards port

✗ 2. Fall in centre of gravity towards starboard

✓ 3. Rise in centre of gravity towards starboard

✗ 4. Rise in centre of gravity towards port

Question ID : **6306801106887**
Option 1 ID : **6306804348013**
Option 2 ID : **6306804348015**
Option 3 ID : **6306804348014**
Option 4 ID : **6306804348012**
Status : **Not Answered**
Chosen Option : --

Q.48 Creep failure means:

Ans
✗ 1. that cyclic stresses may be of a relatively low level during the greater part of the time

✗ 2. that a small crack suddenly begins to grow and travels almost explosively through a major portion of the structure

✗ 3. the failure of a material from repeated application of stress such as from vibration

✓ 4. the slow plastic deformation of material due to continuously applied stresses that are below its yield stress

Question ID : **6306801134484**
Option 1 ID : **6306804458047**
Option 2 ID : **6306804458045**
Option 3 ID : **6306804458046**
Option 4 ID : **6306804458048**
Status : **Not Answered**
Chosen Option : --

Q.49 Propeller efficiency for a ship is best described as the ratio of:

Ans
✓ 1. thrust power to power delivered to the propeller

✗ 2. effective power to delivered power

✗ 3. effective power to thrust power

✗ 4. thrust power to effective power

Question ID : **6306801109567**
Option 1 ID : **6306804358917**
Option 2 ID : **6306804358916**
Option 3 ID : **6306804358919**
Option 4 ID : **6306804358918**
Status : **Not Answered**
Chosen Option : --

Q.50 Which of the following is NOT an advantage of using corrugated bulkheads?

Ans
✗ 1. Strength/Weight ratio better than that of plate bulkheads
✓ 2. More broken cargo stowage
✗ 3. Lesser thermal stresses in case of fire
✗ 4. Hold or tank cleaning becomes much easier and faster

Question ID : **6306801142747**
Option 1 ID : **6306804491240**
Option 2 ID : **6306804491243**
Option 3 ID : **6306804491242**
Option 4 ID : **6306804491241**
Status : **Not Answered**
Chosen Option : --

Q.51 The value of incremental resistance coefficient for model ship correlation CA is taken as:

Ans
✗ 1. 0.4
✗ 2. 0.04
✓ 3. 0.0004
✗ 4. 0.004

Question ID : **6306801108929**
Option 1 ID : **6306804356297**
Option 2 ID : **6306804356298**
Option 3 ID : **6306804356300**
Option 4 ID : **6306804356299**
Status : **Not Answered**
Chosen Option : --

Q.52 Select the option NOT to be considered as a propellor bearing force developed in a ship's operation in a seaway.

Ans
✗ 1. Dry propellor inertia
✗ 2. Added mass, inertia and damping
✗ 3. Out of balance forces and moments
✓ 4. Wet propellor inertia

Question ID : **6306801110108**
Option 1 ID : **6306804361156**
Option 2 ID : **6306804361158**
Option 3 ID : **6306804361159**
Option 4 ID : **6306804361157**
Status : **Not Answered**
Chosen Option : --

Q.53 Which of the following ship motions can be considered as a regular periodic motion?

Ans
✓ 1. Pitch
✗ 2. Yaw
✗ 3. Sway
✗ 4. Loll

Question ID : **6306801118454**
Option 1 ID : **6306804394228**
Option 2 ID : **6306804394227**
Option 3 ID : **6306804394226**
Option 4 ID : **6306804394229**
Status : **Not Answered**
Chosen Option : --

Q.54 The formula for wave number (k) used in studying ocean waves acting on a ship in seakeeping analysis is given by the:

Ans
✓ 1. waves of the highest spectral density
✗ 2. waves of the highest amplitude
✗ 3. waves of the highest energy
✗ 4. waves of the highest frequency

Question ID : **6306801118051**
Option 1 ID : **6306804392649**
Option 2 ID : **6306804392646**
Option 3 ID : **6306804392648**
Option 4 ID : **6306804392647**
Status : **Not Answered**
Chosen Option : --

Q.55 As per ILLC, hatches which are at Position 2 have coamings at least _____ as measured from sheathing.

Ans
✗ 1. 500 mm
✓ 2. 450 mm
✗ 3. 600 mm
✗ 4. 700 mm

Question ID : 6306801132159
Option 1 ID : 6306804448748
Option 2 ID : 6306804448749
Option 3 ID : 6306804448747
Option 4 ID : 6306804448750
Status : Not Answered
Chosen Option : --

Q.56 Due to higher bending moments, a ship has maximum scantlings of structural members at the _____.

Ans
✓ 1. midship section
✗ 2. neutral axis
✗ 3. aft perpendicular
✗ 4. foreword perpendicular

Question ID : 6306801132265
Option 1 ID : 6306804449170
Option 2 ID : 6306804449172
Option 3 ID : 6306804449171
Option 4 ID : 6306804449173
Status : Not Answered
Chosen Option : --

Q.57 The position and shape of shaft bossing will lead to increase in:

Ans
✗ 1. thrust deduction fraction
✗ 2. viscous pressure resistance
✗ 3. form drag
✓ 4. wake fraction

Question ID : 6306801109466
Option 1 ID : 6306804358465
Option 2 ID : 6306804358464
Option 3 ID : 6306804358466
Option 4 ID : 6306804358467
Status : Not Answered
Chosen Option : --

Q.58 A ship CANNOT develop angle of loll from upright condition because of _____.

Ans
✗ 1. loading containers on the deck
✗ 2. operation of lifting gear
✓ 3. ballasting double bottom tanks
✗ 4. gradual consumption of bunkers during the voyage

Question ID : 6306801107254
Option 1 ID : 6306804349477
Option 2 ID : 6306804349474
Option 3 ID : 6306804349475
Option 4 ID : 6306804349476
Status : Not Answered
Chosen Option : --

Q.59 Select the INCORRECT statement regarding primary failure mode in the ultimate strength analysis of a ship's midship section.

Ans
✗ 1. The initial yield mode assumes that buckling occurs prior to yielding.

✗ 2. The fully plastic mode gives an upper bound on the ultimate moment.

✗ 3. Instability collapse moment mode defines buckling and post-buckling strength of the hull.

✓ 4. Instability collapse moment mode is the governing mode of failure.

Question ID : **6306801144221**
Option 1 ID : **6306804497070**
Option 2 ID : **6306804497068**
Option 3 ID : **6306804497069**
Option 4 ID : **6306804497071**
Status : **Not Answered**
Chosen Option : --

Q.60 When a box measuring 2 cubic metres and of 4000 kg mass is completely immersed in fresh water, it will appear to suffer a loss in mass of:

Ans
✗ 1. 1025 kg

✗ 2. 4000 kg

✗ 3. 1000 kg

✓ 4. 2000 kg

Question ID : **6306801106283**
Option 1 ID : **6306804345548**
Option 2 ID : **6306804345549**
Option 3 ID : **6306804345547**
Option 4 ID : **6306804345546**
Status : **Not Answered**
Chosen Option : --

Q.61 Reserve buoyancy of a vessel at any waterline depends on its _____.

Ans
✗ 1. lightweight

✗ 2. volume of displacement

✗ 3. deadweight

✓ 4. volume of superstructure

Question ID : **6306801105994**
Option 1 ID : **6306804344254**
Option 2 ID : **6306804344253**
Option 3 ID : **6306804344255**
Option 4 ID : **6306804344252**
Status : **Not Answered**
Chosen Option : --

Q.62 A stranded ship in a seaway will capsize if and only if:

Ans
✗ 1. the displacement of the vessel at a waterline of the lowest expected water level relative to the point of support exceeds the weight of the ship

✓ 2. the point of application of the tow-line is low

✗ 3. the range of righting lever curve of stability is high

✗ 4. the angle made with the horizontal exceeds the coefficient of static friction between the bottom of the ship and the support.

Question ID : **6306801108538**
Option 1 ID : **6306804354459**
Option 2 ID : **6306804354460**
Option 3 ID : **6306804354457**
Option 4 ID : **6306804354458**
Status : **Not Answered**
Chosen Option : --

Q.63 Spray and spray rail resistance components of resistance become dominant in high-speed crafts when Froude number is:

Ans
✗ 1. between the range of 0.2 - 0.35
✓ 2. greater than 0.5
✗ 3. greater than 0.8
✗ 4. between the range of 0.35 - 0.5

Question ID : 6306801109440
Option 1 ID : 6306804358360
Option 2 ID : 6306804358362
Option 3 ID : 6306804358363
Option 4 ID : 6306804358361
Status : Not Answered
Chosen Option : --

Q.64 Grounding of a ship due to squat effect CANNOT be influenced by:

Ans
✗ 1. speed of the vessel
✗ 2. block coefficient of the ship
✗ 3. length to breadth ratio
✓ 4. waterplane coefficient

Question ID : 6306801110141
Option 1 ID : 6306804361289
Option 2 ID : 6306804361288
Option 3 ID : 6306804361290
Option 4 ID : 6306804361291
Status : Not Answered
Chosen Option : --

Q.65 The hull roughness allowance used in total resistance computation of ships does NOT depend on:

Ans
✗ 1. the type of the ship
✓ 2. the speed of the ship
✗ 3. the length of the ship
✗ 4. the hull surface condition

Question ID : 6306801108899
Option 1 ID : 6306804356178
Option 2 ID : 6306804356180
Option 3 ID : 6306804356177
Option 4 ID : 6306804356179
Status : Not Answered
Chosen Option : --

Q.66 The change in the centre of gravity of a ship with a displacement of 20000t when a crane onboard the ship, whose topmost point is 8 m above the ships centre of gravity, lifts a weight of 100 tonnes from 2 m below the centre of gravity to 3 m top of the centre of gravity would be a:

Ans
✗ 1. rise of 0.003 m
✗ 2. drop of 0.01 m
✓ 3. rise of 0.05 m
✗ 4. rise of 0.02 m

Question ID : 6306801107136
Option 1 ID : 6306804349004
Option 2 ID : 6306804349003
Option 3 ID : 6306804349006
Option 4 ID : 6306804349005
Status : Not Answered
Chosen Option : --

Q.67 Plates used in a ship to connect stern frames to flat plate keel at the turn of the bilge to the keel are known as _____.

Ans
✗ 1. Coffin Plate
✓ 2. Oxter Plate
✗ 3. Stealer Plate
✗ 4. Doubling Plate

Question ID : 6306801142754
Option 1 ID : 6306804491270
Option 2 ID : 6306804491268
Option 3 ID : 6306804491269
Option 4 ID : 6306804491271
Status : Not Answered
Chosen Option : --

Q.68 Streamline test is conducted on a ship's hull to identify the _____.

Ans
✗ 1. location of eddy current generation
✗ 2. correlation allowance
✗ 3. potential function gradient
✓ 4. location of appendages

Question ID : 6306801106507
Option 1 ID : 6306804346489
Option 2 ID : 6306804346491
Option 3 ID : 6306804346490
Option 4 ID : 6306804346488
Status : Not Answered
Chosen Option : --

Q.69 The best indicator for cargo carrying capacity of an oceangoing ship that is used for computation of tax by the flag state is:

Ans
✗ 1. net rated tonnage
✗ 2. gross rated tonnage
✓ 3. net tonnage
✗ 4. gross tonnage

Question ID : 6306801106519
Option 1 ID : 6306804346539
Option 2 ID : 6306804346537
Option 3 ID : 6306804346538
Option 4 ID : 6306804346536
Status : Not Answered
Chosen Option : --

Q.70 The encounter frequency of a wave acting on a ship in a wave system does NOT depend on the _____.

Ans
✗ 1. ship's heading
✓ 2. wave frequency
✗ 3. ship's length
✗ 4. ship's speed

Question ID : 6306801118133
Option 1 ID : 6306804392972
Option 2 ID : 6306804392973
Option 3 ID : 6306804392971
Option 4 ID : 6306804392970
Status : Not Answered
Chosen Option : --

Q.71 Impact loads may induce transient hull vibration, which is called _____.

Ans
✓ 1. Slamming
✗ 2. Sloshing
✗ 3. Porpoisoning
✗ 4. Whipping

Question ID : 6306801134456
Option 1 ID : 6306804457936
Option 2 ID : 6306804457934
Option 3 ID : 6306804457935
Option 4 ID : 6306804457937
Status : Not Answered
Chosen Option : --

Q.72 Which of the following is/are NOT treated as the appendage of a vessel?

Ans
✗ 1. Brackets
✗ 2. Bossings
✗ 3. Daggerboard
✓ 4. Xbow

Question ID : **6306801109459**
Option 1 ID : **6306804358436**
Option 2 ID : **6306804358438**
Option 3 ID : **6306804358439**
Option 4 ID : **6306804358437**
Status : **Not Answered**
Chosen Option : --

Q.73 As per Hughes method of ship resistance calculations, form factor does NOT depend on:

Ans
✗ 1. block coefficient
✗ 2. the displacement of the vessel
✗ 3. the length of the ship
✓ 4. the wetted surface area

Question ID : **6306801108817**
Option 1 ID : **6306804355849**
Option 2 ID : **6306804355847**
Option 3 ID : **6306804355846**
Option 4 ID : **6306804355848**
Status : **Not Answered**
Chosen Option : --

Q.74 Momentum theory applied in marine propulsion design suggests that:

Ans
✓ 1. propeller disk area and diameter have to be as large as possible for high ideal efficiency
✗ 2. propeller disk area and diameter have to be as low as possible for high ideal efficiency
✗ 3. propeller disk area has to be low and diameter has to be as large as possible for high ideal efficiency
✗ 4. propeller disk area has to be high and diameter has to be low for high ideal efficiency

Question ID : **6306801109489**
Option 1 ID : **6306804358557**
Option 2 ID : **6306804358559**
Option 3 ID : **6306804358558**
Option 4 ID : **6306804358556**
Status : **Not Answered**
Chosen Option : --

Q.75 The best type of ducted propellor to prevent occurrence of cavitation is:

Ans
✗ 1. accelerating duct
✗ 2. pull push duct
✓ 3. deccelerating duct
✗ 4. hannan slot duct

Question ID : **6306801110090**
Option 1 ID : **6306804361088**
Option 2 ID : **6306804361090**
Option 3 ID : **6306804361089**
Option 4 ID : **6306804361091**
Status : **Not Answered**
Chosen Option : --

Q.76 A quantity that CANNOT be found from an inclining experiment of a ship is _____.

Ans
✗ 1. Lightweight
✓ 2. position of metacentre of the ship from keel
✗ 3. position of longitudinal centre of gravity of the ship from midship
✗ 4. position of vertical centre of gravity of the ship

Question ID : **6306801106828**
Option 1 ID : **6306804347776**
Option 2 ID : **6306804347778**
Option 3 ID : **6306804347779**
Option 4 ID : **6306804347777**
Status : **Not Answered**
Chosen Option : --

Q.77 Which of the following statements about the free surface effect is FALSE?

Ans
✗ 1. It first increases and then decreases as the tank is filled from empty to full.
✗ 2. It can lead to a condition of neutral equilibrium.
✓ 3. It increases in indirect proportion to increasing specific gravity of the liquid in the tank.
✗ 4. It decreases at increased angles of heel due to pocketing when a tank is 90% full.

Question ID : **6306801107008**
Option 1 ID : **6306804348495**
Option 2 ID : **6306804348496**
Option 3 ID : **6306804348497**
Option 4 ID : **6306804348498**
Status : **Not Answered**
Chosen Option : --

Q.78 The size and type of wind-generated waves acting on a ship in a seaway do NOT depend on the:

Ans
✗ 1. wind duration
✓ 2. original state of the sea surface
✗ 3. fetch
✗ 4. swell

Question ID : **6306801118020**
Option 1 ID : **6306804392525**
Option 2 ID : **6306804392524**
Option 3 ID : **6306804392523**
Option 4 ID : **6306804392522**
Status : **Not Answered**
Chosen Option : --

Q.79 A ship is floating in seawater and is damaged, leading to flooding inside the hull. The compartment with maximum permeability would be:

Ans
✗ 1. the cargo hold filled with cargo to full capacity
✗ 2. partially filled peak tanks
✓ 3. the engine room
✗ 4. the completely filled double bottom tank

Question ID : **6306801107764**
Option 1 ID : **6306804351514**
Option 2 ID : **6306804351511**
Option 3 ID : **6306804351513**
Option 4 ID : **6306804351512**
Status : **Not Answered**
Chosen Option : --

Q.80 A tender ship is best described as:

Ans
✗ 1. a vessel with large GM and large roll period
✓ 2. a vessel with small GM and large roll period
✗ 3. a vessel with small GM and small roll period
✗ 4. a vessel with large GM and small roll period

Question ID : **6306801106799**
Option 1 ID : **6306804347660**
Option 2 ID : **6306804347662**
Option 3 ID : **6306804347661**
Option 4 ID : **6306804347663**
Status : **Not Answered**
Chosen Option : --

Q.81 Air resistance of a ship is influenced by a number of factors. Select the right sequence in decreasing order of influencing factors.
1) Streamlining of Superstructure
2) Height of Superstructure
3) Stepped back construction
4) Presence of fittings like mast radar

Ans
✗ 1. 1-2-3-4
✗ 2. 2-1-4-3
✗ 3. 1-3-2-4
✓ 4. 2-1-3-4

Question ID : **6306801108798**
Option 1 ID : **6306804355738**
Option 2 ID : **6306804355741**
Option 3 ID : **6306804355740**
Option 4 ID : **6306804355739**
Status : **Not Answered**
Chosen Option : --

Q.82 Removal of weight like cargo or bunkers from a ship which are located at its centre of floatation may lead to _____.

Ans
✓ 1. change of draft and bodily sinkage
✗ 2. change of draft and change of trim
✗ 3. change of trim and bodily sinkage
✗ 4. only bodily sinkage

Question ID : **6306801105987**
Option 1 ID : **6306804344211**
Option 2 ID : **6306804344209**
Option 3 ID : **6306804344208**
Option 4 ID : **6306804344210**
Status : **Not Answered**
Chosen Option : --

Q.83 In a beam sea condition, a ship that is at an angle of loll of 5 degrees to port side encounters a large wave travelling from its port side to starboard side. The ship will definitely _____.

Ans
✗ 1. oscillate to port side and come back to rest at an angle less than 5 degrees starboard
✓ 2. suddenly jerk to starboard side 5 degrees
✗ 3. suddenly jerk to starboard side but come back to 5 degrees port
✗ 4. oscillate to starboard side and come back to rest at an angle less than 5 degrees port

Question ID : **6306801107312**
Option 1 ID : **6306804349709**
Option 2 ID : **6306804349707**
Option 3 ID : **6306804349708**
Option 4 ID : **6306804349706**
Status : **Not Answered**
Chosen Option : --

Q.84 Which of the following is a type of stern contour of a ship that would develop minimum thrust deduction fraction?

Ans
✗ 1. Free propeller stern
✗ 2. Transom stern
✗ 3. Cruiser stern
✓ 4. Bulbous stern

Question ID : **6306801109548**
Option 1 ID : **6306804358834**
Option 2 ID : **6306804358833**
Option 3 ID : **6306804358832**
Option 4 ID : **6306804358835**
Status : **Not Answered**
Chosen Option : --

Q.85 The change in the centre of gravity of a ship with a displacement of 10000t, when a crane onboard the vessel whose topmost point is 8 m above the ship's centre of gravity, lifts a weight of 100 tonnes from 2 m below the centre of gravity position to 3 m top of the centre of gravity would be a:

Ans
✗ 1. rise of 1 m
✗ 2. rise of 0.05 m
✓ 3. rise of 0.1 m
✗ 4. rise of 0.005 m

Question ID : **6306801107118**
Option 1 ID : **6306804348931**
Option 2 ID : **6306804348934**
Option 3 ID : **6306804348933**
Option 4 ID : **6306804348932**
Status : **Not Answered**
Chosen Option : --

Q.86 In damage stability, freeboard ratio considered for floodable length calculations of a ship, is best defined as:

Ans
✓ 1. freeboard amidship measured up to margin line divided by subdivision draught
✗ 2. freeboard amidship measured up to margin line divided by depth of the ship
✗ 3. freeboard amidship measured divided by forward shear
✗ 4. freeboard amidship measured upto margin line divided by summer freeboard

Question ID : **6306801107777**
Option 1 ID : **6306804351566**
Option 2 ID : **6306804351564**
Option 3 ID : **6306804351565**
Option 4 ID : **6306804351563**
Status : **Not Answered**
Chosen Option : --

Q.87 A submarine completely submerged under water will be in a state of stable equilibrium if _____ (where, B is the centre of buoyancy, G is the centre of gravity, and M is the transverse metacentre).

Ans
✗ 1. M is above G
✗ 2. B is at M
✓ 3. B is above G
✗ 4. M is above B

Question ID : **6306801107664**
Option 1 ID : **6306804351116**
Option 2 ID : **6306804351118**
Option 3 ID : **6306804351115**
Option 4 ID : **6306804351117**
Status : **Not Answered**
Chosen Option : --

Q.88 The formula for moment of statistical stability of a ship of Length L, Moulded Breadth B, and Draft D at any given draft is rightly represented as:

Ans
✗ 1. Area under the GZ curve × GM
✗ 2. Area under the GZ curve × L × B × D
✓ 3. Area under the GZ curve × Mass displacement of the vessel
✗ 4. Area under the GZ curve × Volume of displacement of the vessel

Question ID : **6306801107634**
Option 1 ID : **6306804350998**
Option 2 ID : **6306804350996**
Option 3 ID : **6306804350995**
Option 4 ID : **6306804350997**
Status : **Not Answered**
Chosen Option : --

Q.89 Which of the following is NOT an example of dynamic loads acting on a ship?

Ans
✗ 1. Hull pressure variations caused by oscillatory ship motions

✗ 2. Hydroelastic loads resulting from interaction of appendages with the flow past the ship

✗ 3. Inertial reactions resulting from the acceleration of the mass of the ship and its contents

✓ 4. Dry docking loads

Question ID : **6306801143895**
Option 1 ID : **6306804495774**
Option 2 ID : **6306804495773**
Option 3 ID : **6306804495776**
Option 4 ID : **6306804495775**
Status : **Not Answered**
Chosen Option : --

Q.90 Which of the following is NOT true about a waterjet type propulsion used in ships?

Ans
✗ 1. Good slow speed propulsion

✗ 2. Can produce very high speed compared to conventional propellers

✗ 3. Good directional stability

✓ 4. Cavitation is easier to occur in a waterjet than for a propeller at high speed

Question ID : **6306801109660**
Option 1 ID : **6306804359370**
Option 2 ID : **6306804359371**
Option 3 ID : **6306804359369**
Option 4 ID : **6306804359368**
Status : **Not Answered**
Chosen Option : --

Q.91 Angle of loll for a ship as seen on a GZ righting arm curve does NOT depend on:

Ans
✗ 1. height of centre of buoyancy above the keel

✗ 2. metacentric height

✓ 3. height of metacentre above the keel

✗ 4. metacentric radius

Question ID : **6306801107883**
Option 1 ID : **6306804351980**
Option 2 ID : **6306804351978**
Option 3 ID : **6306804351977**
Option 4 ID : **6306804351979**
Status : **Not Answered**
Chosen Option : --

Q.92 In towing tank tests for accuracy of results, turbulence stimulation of the model is generated by various methods. Which one of these is NOT a method to create turbulence?

Ans
✗ 1. Vertical rods, screens or waterjets

✗ 2. Sand paper kept at the bow

✗ 3. A net is placed ahead of the model

✓ 4. Suitable paint is applied

Question ID : **6306801108936**
Option 1 ID : **6306804356324**
Option 2 ID : **6306804356326**
Option 3 ID : **6306804356325**
Option 4 ID : **6306804356327**
Status : **Not Answered**
Chosen Option : --

Q.93 In Ship Resistance Estimation, select the quantity that is NOT considered in computation of Prohaskas form factor by graphical analysis?

Ans
✗ 1. Frictional Resistance coefficient CF
✗ 2. Total Resistance coefficient CT
✓ 3. Wavemaking Resistance coefficient CW
✗ 4. Froude number Fn

Question ID : 6306801108811
Option 1 ID : 6306804355807
Option 2 ID : 6306804355806
Option 3 ID : 6306804355809
Option 4 ID : 6306804355808
Status : Not Answered
Chosen Option : --

Q.94 The Squat Effect acting on a ship is best defined as:

Ans
✓ 1. mean draught changes when a ship passes through a shallow and narrow channel
✗ 2. mean draught changes when a ship passes from salt water to fresh water, or vice-versa, when the ship is loaded to the Summer displacement
✗ 3. in beam or quartering seas resonance can cause the ship to roll to very large angles in a moderate sea
✗ 4. in head or following seas resonance can cause the ship to roll to very large angles in a moderate sea

Question ID : 6306801109251
Option 1 ID : 6306804357607
Option 2 ID : 6306804357605
Option 3 ID : 6306804357606
Option 4 ID : 6306804357604
Status : Not Answered
Chosen Option : --

Q.95 A floating homogeneous spherical log, when acted by disturbing forces of waves, will start moving in _____.

Ans
✓ 1. the same direction until the force is removed as in unstable equilibrium condition
✗ 2. the same direction until the force is removed as in neutral equilibrium condition
✗ 3. the same direction after the force is removed as in unstable equilibrium condition
✗ 4. the same direction after the force is removed as in neutral equilibrium condition

Question ID : 6306801106289
Option 1 ID : 6306804345571
Option 2 ID : 6306804345573
Option 3 ID : 6306804345572
Option 4 ID : 6306804345570
Status : Not Answered
Chosen Option : --

Q.96 In ship rudder terminology, the root of a marine rudder is defined as the _____.

Ans
✓ 1. horizontal distance from the leading to the trailing edge at the bottom of the rudder
✗ 2. horizontal distance from the leading to the trailing edge at the top of the rudder
✗ 3. horizontal distance from the stock to the tip
✗ 4. horizontal distance from the leading edge to the trailing edge at the middle of the rudder

Question ID : 6306801117880
Option 1 ID : 6306804391964
Option 2 ID : 6306804391965
Option 3 ID : 6306804391963
Option 4 ID : 6306804391962
Status : Not Answered
Chosen Option : --

Q.97 The virtual loss of metacentric height of a ship due to drydocking of a ship does NOT depend on:

Ans
✗ 1. the upthrust at the stern
✗ 2. height of the metacentre above the keel
✗ 3. displacement of the vessel
✓ 4. the critical period

Question ID : **6306801108720**
Option 1 ID : **6306804355328**
Option 2 ID : **6306804355326**
Option 3 ID : **6306804355329**
Option 4 ID : **6306804355327**
Status : **Not Answered**
Chosen Option : --

Q.98 Windmilling of a propeller, as determined from propeller series diagrams, can be best described as:

Ans
✓ 1. rotation of a propeller caused by flow past it without power being applied to the propeller shaft
✗ 2. rotation of a propeller caused when subjected to critical speed during circulating water channel test
✗ 3. rotation of a propeller caused when subjected to critical speed during wind tunnel test
✗ 4. rotation of a propeller caused by flow past it when the engine is run at 25 per cent MCR

Question ID : **6306801109635**
Option 1 ID : **6306804359237**
Option 2 ID : **6306804359239**
Option 3 ID : **6306804359238**
Option 4 ID : **6306804359236**
Status : **Not Answered**
Chosen Option : --

Q.99 For a ship whose centre of gravity (G) is located below the main deck and on the centreline, complete discharge of three double bottom tanks located on starboard side will lead to which of the following changes in the position of G from its initial position?

Ans
✓ 1. Rise in centre of gravity towards port
✗ 2. Fall in centre of gravity towards starboard
✗ 3. Rise in centre of gravity towards starboard
✗ 4. Fall in centre of gravity towards port

Question ID : **6306801106966**
Option 1 ID : **6306804348330**
Option 2 ID : **6306804348329**
Option 3 ID : **6306804348328**
Option 4 ID : **6306804348327**
Status : **Not Answered**
Chosen Option : --

Q.100 In model propeller experiments, the component of wake, which has a major share of total wake produced is:

Ans
✓ 1. friction wake
✗ 2. potential wake
✗ 3. wave wake
✗ 4. wake due to change of propeller race

Question ID : **6306801109648**
Option 1 ID : **6306804359298**
Option 2 ID : **6306804359297**
Option 3 ID : **6306804359296**
Option 4 ID : **6306804359299**
Status : **Not Answered**
Chosen Option : --