Junior Engineer Civil Mechanical Electrical and Quantity Surveying and Contract Examination 2019

Roll Number	
Candidate Name	
Venue Name	
Exam Date	11/12/2020
Exam Time	10:00 AM - 12:00 PM
Subject	Junior Engineer 2019 Mechanical

Section : **General Intelligence and Reasoning**

Q.1 After walking 2 km, I turned right and walked 2 km, then turned left and covered a distance of 3 km. In the end I was moving towards the East. In which direction did I start my journey?

Ans
- ✗ 1. North
- ✗ 2. West
- ✗ 3. South
- ✓ 4. East

Question ID : **6549785003**
Status : **Answered**
Chosen Option : **4**

Q.2 Select the letter that can replace the question mark (?) in the following series.

G, H, L, U, ?

Ans
- ✓ 1. K
- ✗ 2. M
- ✗ 3. L
- ✗ 4. Z

Question ID : **6549784980**
Status : **Answered**
Chosen Option : **1**

Q.3 Select the option which is related to the third letter-cluster in the same way as second letter-cluster is related to the first letter-cluster.

DOGS : MVLV : : CATS : ?

Ans
- ✗ 1. VLYP
- ✗ 2. LYVH
- ✗ 3. YHVL
- ✓ 4. LHYV

Question ID : **6549784996**
Status : **Answered**
Chosen Option : **4**

Q.4 Four girls are sitting in a circle and facing towards the centre. Kirti is sitting to the right of Suhani but she is NOT just to the left of Vatshala. Anushka is sitting between Kirti and Vatshala. Who is sitting to the right of Vatshala?

Ans

✗ 1. Kirti

✓ 2. Suhani

✗ 3. Vatshala

✗ 4. Anushka

Question ID : **6549785007**
Status : **Answered**
Chosen Option : **2**

Q.5 Select the number that can replace the question mark (?) in the following series.

2, 5, 10, 17, 26, ?

Ans

✗ 1. 64

✓ 2. 37

✗ 3. 51

✗ 4. 49

Question ID : **6549785009**
Status : **Answered**
Chosen Option : **2**

Q.6 Select the option in which the two numbers share the same relationship as that shared by the given number pair.

345 : 115

Ans

✓ 1. 225 : 75

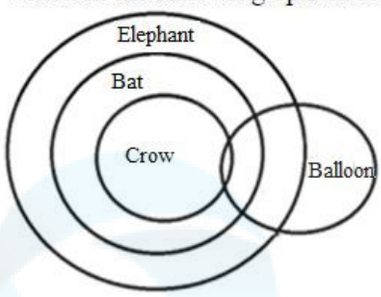
✗ 2. 161 : 23

✗ 3. 450 : 45

✗ 4. 68 : 17

Question ID : **6549785012**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.7 Which of the following options is correct based on the given Venn diagram?



Ans
1. Each Balloon is a Crow
2. Not a single Crow is Balloon
3. All Crows are Bats
4. Some Bats are not Elephants

Question ID : **6549785028**
Status : **Answered**
Chosen Option : **3**

Q.8 In a certain language, FAMOUS is written as GBNPVT. Which word would be written as QPQVMBS in that language?

Ans
1. POPULAR
2. PUPAOLR
3. PUPOLAR
4. POLARUP

Question ID : **6549784997**
Status : **Answered**
Chosen Option : **1**

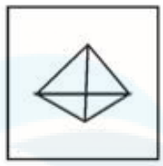
Q.9 Find the difference between the sum of prime digits and the sum of composite digits in the number 397801.

Ans
1. 5
2. 8
3. 7
4. 6

Question ID : **6549785019**
Status : **Answered**
Chosen Option : **4**

Q.10 Select the option in which the given figure is embedded. (Rotation is NOT allowed)

Ans

✗ 1. 

✗ 2. 

✓ 3. 

✗ 4. 

Question ID : **6549785022**
Status : **Answered**
Chosen Option : **3**

Q.11 Select the option which is related to the third letter-cluster in the same way as second letter-cluster is related to the first letter-cluster.

HIGH : JLKM :: OPEN : ?

Ans

✗ 1. QSQS

✗ 2. QJSJ

✓ 3. QSIS

✗ 4. QISI

Question ID : **6549784995**
Status : **Answered**
Chosen Option : **3**

Q.12 Select the alphanumeric-cluster that can replace the question mark (?) in the following series.

HC5, FF8, DI11, BL14, ?

Ans

✗ 1. ML12

✗ 2. OX15

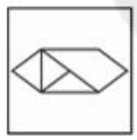
✗ 3. YX17

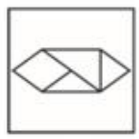
✓ 4. ZO17

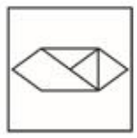
Question ID : **6549784984**
Status : **Answered**
Chosen Option : **4**

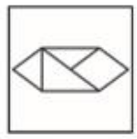
Q.13 Select the correct mirror image of the given figure, when the mirror is placed to the right of the figure.

Ans

✗ 1. 

✗ 2. 

✗ 3. 

✓ 4. 

Question ID : **6549785025**
Status : **Answered**
Chosen Option : **4**

Q.14 Select the option in which the two numbers share the same relationship as that shared by the given number-pair.

(11, 143)

Ans

✗ 1. (24, 216)

✗ 2. (5, 39)

✗ 3. (18, 93)

✓ 4. (17, 323)

Question ID : **6549785014**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.15 Select the option that is related to the third term in the same way as the second term is related to the first term.

Dates : Calendar : : Words : ?

Ans

✗ 1. Language

✓ 2. Dictionary

✗ 3. Vowels

✗ 4. Vocabulary

Question ID : **6549784989**
Status : **Answered**
Chosen Option : **2**

Q.16 Johnson's present age is one-fifth of his father's age. Five years ago, Johnson's father's age was 2 years more than 8 times Johnson's age. What are the present ages (in years) of Johnson and his father, respectively?

Ans

✗ 1. 10, 50

✓ 2. 11, 55

✗ 3. 9, 45

✗ 4. 12, 60

Question ID : **6549785018**
Status : **Answered**
Chosen Option : **2**

Q.17 Select the option in which the given figure is embedded. (Rotation is NOT allowed)

Ans

✗ 1. 

✓ 2. 

✗ 3. 

✗ 4. 

Question ID : **6549785023**
Status : **Answered**
Chosen Option : **2**

Q.18 Select the alphanumeric-cluster that can replace the question mark (?) in the following series.
4S15, 3W20, 16S3, 15Q2, ?

Ans
✗ 1. 23U5
✗ 2. 12O4
✓ 3. 14N0
✗ 4. 24T6

Question ID : **6549784987**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.19 Pointing to Tushar, Sudha said, "His mother is the only daughter of my mother". How is Sudha related to Tushar?

Ans
✗ 1. Daughter
✓ 2. Mother
✗ 3. Grandmother
✗ 4. Sister

Question ID : **6549785005**
Status : **Not Answered**
Chosen Option : **--**

Q.20 If SUHANI is given the code number 192181149, then what code number can be given to TUSHAR?

Ans
✗ 1. 2119188120
✗ 2. 2012191818
✓ 3. 2021198118
✗ 4. 2120191881

Question ID : **6549785000**
Status : **Answered**
Chosen Option : **3**

Q.21 Select the letter-cluster that can replace the question mark (?) in the following series.
EJOT, DHLP, CFIL, BDFH, ?

Ans
✓ 1. ABCD
✗ 2. ADGJ
✗ 3. EFGH
✗ 4. MOQS

Question ID : **6549784985**
Status : **Answered**
Chosen Option : **1**

Q.22 Select the combination of letters that when sequentially placed in the blanks of the given letter series will complete the series.

_ q p p _ p p _ p p q _

Ans

✗ 1. p q p q

✓ 2. p q q p

✗ 3. q q p p

✗ 4. q p p q

Question ID : **6549784983**
Status : **Answered**
Chosen Option : **2**

Q.23 Select the option in which the numbers are related in the same way as are the numbers in the given set.

(13, 61, 17)

Ans

✓ 1. (101, 53, 31)

✗ 2. (87, 67, 1)

✗ 3. (98, 35, 63)

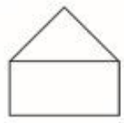
✗ 4. (39, 57, 92)

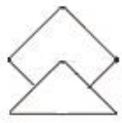
Question ID : **6549785016**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

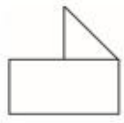
Q.24 Which option figure is NOT embedded in the given figure, if rotation is not allowed?

Ans

✓ 1. 

✗ 2. 

✗ 3. 

✗ 4. 

Question ID : **6549785024**
Status : **Answered**
Chosen Option : **1**

Q.25 Select the combination of letters that when sequentially placed in the blanks of the given letter series will complete the series.

r s _ t _ r _ s t q _ s s _ q

Ans

✔ 1. s q s r t

✘ 2. q r q t s

✘ 3. r r s t q

✘ 4. t r t s r

Question ID : **6549784982**
Status : **Answered**
Chosen Option : **1**

Q.26 If three persons are standing in such a way that M is to the South of N and O is to the East of N, then in what direction is M with respect to O?

Ans

✘ 1. North-East

✘ 2. South

✔ 3. South-West

✘ 4. West

Question ID : **6549785004**
Status : **Answered**
Chosen Option : **3**

Q.27 Select the combination of letters that when sequentially placed in the blanks of the given letter series will complete the series.

d m _ s _ m _ s _ m a _

Ans

✘ 1. s d a d s

✘ 2. d d d d s

✘ 3. s d d a s

✔ 4. a d a d s

Question ID : **6549784981**
Status : **Answered**
Chosen Option : **4**

Q.28 Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:
1. Some girls are educated.
2. Educated girls prefer small families.

Conclusions:
I. All small families are educated.
II. Some girls prefer small families.

Ans
✗ 1. Only conclusion I follows
✗ 2. Both conclusions I and II follow
✗ 3. Neither conclusion I nor II follows
✓ 4. Only conclusion II follows

Question ID : **6549785002**
Status : **Answered**
Chosen Option : **4**

Q.29 Khushi is three years older than Pihoo but two years younger than Tushar. Tushar's age is five years more than thrice of Vatshala's age. If Vatshala is five years old, then what is the age of Pihoo?

Ans
✓ 1. 15 years
✗ 2. 20 years
✗ 3. 17 years
✗ 4. 18 years

Question ID : **6549785020**
Status : **Answered**
Chosen Option : **1**

Q.30 Select the option which is related to the third term in the same way as second term is related to the first term.
When : Time : : Where : ?

Ans
✓ 1. Place
✗ 2. Length
✗ 3. Reason
✗ 4. Clock

Question ID : **6549784990**
Status : **Answered**
Chosen Option : **1**

Q.31 Four word-pairs have been given, out of which three are alike in some manner and one is different. Select the odd word-pair.

Ans

✔ 1. Duster – Chalk

✘ 2. Shoes – Leather

✘ 3. Shirt – Fabric

✘ 4. Tumbler – Glass

Question ID : **6549784992**
Status : **Answered**
Chosen Option : **1**

Q.32 In a certain code language, HONEY is written as FQLGW. How will SUGAR be written in that language?

Ans

✘ 1. USECP

✘ 2. USIYT

✔ 3. QWECP

✘ 4. QEWPC

Question ID : **6549784998**
Status : **Answered**
Chosen Option : **1**

Q.33 Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:

1) Poverty makes a man hard working.
2) Hard working men are not poor.

Conclusions:

I) To be hard working man should be poor
II) Hard working helps to get rid of poverty.

Ans

✔ 1. Only conclusion II follows

✘ 2. Both conclusions I and II follow

✘ 3. Both conclusions I and II do not follow

✘ 4. Only conclusion I follows

Question ID : **6549785001**
Status : **Answered**
Chosen Option : **1**

Q.34 Select the option in which the two words are related in the same way as are the two words in the following word-pair.
Volume : Litre

Ans

✗ 1. Liquid : Pascal

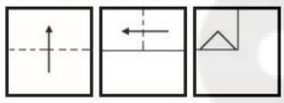
✗ 2. Pressure : Kelvin

✓ 3. Angle : Radian

✗ 4. Second : Clock

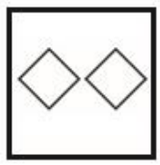
Question ID : **6549784993**
Status : **Answered**
Chosen Option : **3**

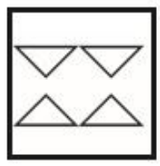
Q.35 The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded?

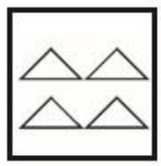


Ans

✗ 1. 

✓ 2. 

✗ 3. 

✗ 4. 

Question ID : **6549785026**
Status : **Answered**
Chosen Option : **2**

Q.36 Today is John's birthday. One year hence, he will be twice as old as he was 8 years ago. How old is John today?

Ans

✗ 1. 21 years

✗ 2. 12 years

✗ 3. 0 years

✓ 4. 17 years

Question ID : **6549785017**
Status : **Answered**
Chosen Option : **4**

Q.37 L is the mother of K and the sister of N. K is the sister of O. If P is the husband of O and N is the husband of M, then how is O related to N?

Ans

✓ 1. Niece

✗ 2. Daughter

✗ 3. Granddaughter

✗ 4. Cousin

Question ID : **6549785006**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.38 Select the option that is related to the third number in the same way as the second number is related to the first number.
19 : 85 : : 21 : ?

Ans

✗ 1. 104

✗ 2. 85

✗ 3. 98

✓ 4. 95

Question ID : **6549785013**
Status : **Answered**
Chosen Option : **4**

Q.39 Select the letter that can replace the question mark (?) in the following series.
I, J, M, ?, Y

Ans

✗ 1. P

✗ 2. O

✓ 3. R

✗ 4. X

Question ID : **6549784979**
Status : **Answered**
Chosen Option : **3**

Q.40 In a certain code, SCIENCE is written as 58. How will TECHNOLOGY be written in that code?

Ans

✗ 1. 126

✗ 2. 135

✓ 3. 124

✗ 4. 132

Question ID : **6549784999**
Status : **Not Answered**
Chosen Option : **--**

Q.41 Select the number that can replace the question mark (?) in the following series.

10, 13, 30, 29, 58, ?

Ans

✗ 1. 49

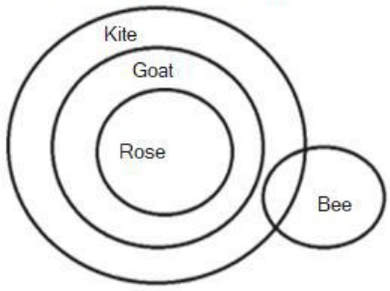
✗ 2. 56

✓ 3. 53

✗ 4. 62

Question ID : **6549785010**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.42 Which of the following options is correct based on the given Venn diagram?



Ans

✗ 1. No Bee is a Kite

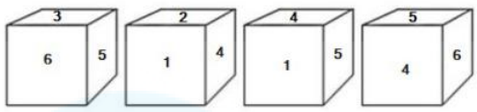
✓ 2. Some Kites are Roses

✗ 3. Roses are Bees

✗ 4. Some Bees are Goats

Question ID : **6549785027**
Status : **Answered**
Chosen Option : **2**

Q.43 Four different positions of the same dice are shown. Find the number that will be on the face opposite to the one showing number '3'.



Ans

✗ 1. 6
✗ 2. 1
✓ 3. 4
✗ 4. 2

Question ID : **6549785021**
Status : **Answered**
Chosen Option : **3**

Q.44 A, B, C, D, E and F are sitting around a circular table facing the centre. A is sitting second to the right of D, who is third to the left of B. If C is NOT sitting with D, then who is sitting between E and F?

Ans

✗ 1. C
✗ 2. B
✓ 3. D
✗ 4. A

Question ID : **6549785008**
Status : **Answered**
Chosen Option : **3**

Q.45 Select the option which is related to the third letter-cluster in the same way as second letter-cluster is related to the first letter-cluster.
GH : IJ : : UV : ?

Ans

✗ 1. ST
✗ 2. PQ
✓ 3. WX
✗ 4. YZ

Question ID : **6549784994**
Status : **Answered**
Chosen Option : **3**

Q.46 Select the option that is related to the third number in the same way as the second number is related to the first number.
18 : 306 : : 19 : ?

Ans

✓ 1. 342
✗ 2. 341
✗ 3. 380
✗ 4. 334

Question ID : **6549785015**
Status : **Answered**
Chosen Option : **4**

Q.47 Select the number that can replace the question mark (?) in the following series.

7, 65, 215, 513, 999, ?

Ans
1. 1251
2. 1729
3. 1456
4. 1702

Question ID : **6549785011**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.48 Select the option that is related to the third term in the same way as the second term is related to the first term.

Flowers : Bouquet : : Camel : ?

Ans
1. Caravan
2. Crowd
3. Herd
4. Swarm

Question ID : **6549784988**
Status : **Answered**
Chosen Option : **4**

Q.49 Four word-pairs have been given, out of which three are alike in some manner and one is different. Select the odd word-pair.

Ans
1. Up – Down
2. High – Low
3. Here – Where
4. Less – More

Question ID : **6549784991**
Status : **Answered**
Chosen Option : **3**

Q.50 If every vowel in the word 'JABALPUR' is changed to its next letter in the English alphabet and every consonant is changed to its previous letter, then what will be the fourth letter from the right?

Ans
1. B
2. A
3. K
4. O

Question ID : **6549784986**
Status : **Answered**
Chosen Option : **3**

Section : **General Awareness**

Q.1 **In which country is 'Nankana Sahib Gurdwara' located?**

Ans
- ✗ 1. Afghanistan
- ✗ 2. Nepal
- ✗ 3. India
- ✓ 4. Pakistan

Question ID : **6549785032**
Status : **Answered**
Chosen Option : **4**

Q.2 **The famous Wular Lake and Dal Lake are situated in:**

Ans
- ✗ 1. Delhi
- ✗ 2. Ladakh
- ✓ 3. Jammu and Kashmir
- ✗ 4. Puducherry

Question ID : **6549785062**
Status : **Answered**
Chosen Option : **3**

Q.3 **What is the main constituent of the Sun?**

Ans
- ✗ 1. Oxygen
- ✓ 2. Hydrogen
- ✗ 3. Methane
- ✗ 4. Helium

Question ID : **6549785045**
Status : **Answered**
Chosen Option : **2**

Q.4 **Eratosthenes measured the Earth's circumference mathematically using the angle of the sun rays at two different places. Which of the following are these two places?**

Ans
- ✗ 1. Syene and Troy
- ✗ 2. Alexandria and Troy
- ✓ 3. Syene and Alexandria
- ✗ 4. Memphis and Troy

Question ID : **6549785063**
Status : **Not Answered**
Chosen Option : **--**

Q.5 **Who among the following is the first Hindu lawmaker in the US Congress, who is also one of the democratic party contenders for the primaries and 2020 presidential nomination?**

Ans
- ✗ 1. Nikki Haley
- ✗ 2. Kamala Harris
- ✗ 3. Pramila Jayapal
- ✓ 4. Tulsi Gabbard

Question ID : **6549785076**
Status : **Answered**
Chosen Option : **2**

Q.6 **The colour of the sky appears blue, because in the atmosphere, blue light is _____ more than the other colours.**

Ans
- ✗ 1. absorbed
- ✓ 2. scattered
- ✗ 3. diffused
- ✗ 4. reflected

Question ID : **6549785054**
Status : **Answered**
Chosen Option : **2**

Q.7 **What is the full form of HTML?**

Ans
- ✓ 1. Hyper Text Markup Language
- ✗ 2. High Talent Marks Language
- ✗ 3. Hyper Text Marginal Language
- ✗ 4. Hyper Talent Marks Language

Question ID : **6549785030**
Status : **Answered**
Chosen Option : **3**

Q.8 **Which of the following is the longest west flowing River of Peninsular India?**

Ans
- ✓ 1. Narmada
- ✗ 2. Godavari
- ✗ 3. Tapi
- ✗ 4. Krishna

Question ID : **6549785060**
Status : **Not Answered**
Chosen Option : **--**

Q.9 **Which of the following Indian cities is the world's fastest-growing city as per a recent estimate put out by the 'Economist' magazine based on 2015-20 projection?**

Ans
- ✗ 1. Kollam
- ✗ 2. Surat
- ✓ 3. Malappuram
- ✗ 4. Kozhikode

Question ID : **6549785035**
Status : **Answered**
Chosen Option : **3**

Q.10 **Who among the following has served as the Chief Minister of Maharashtra for the shortest tenure ever?**

Ans
- ✗ 1. Aditya Thackeray
- ✗ 2. Ajit Pawar
- ✓ 3. Devendra Fadnavis
- ✗ 4. Uddhav Thackeray

Question ID : **6549785072**
Status : **Answered**
Chosen Option : **3**

Q.11 **The tropical Montane forests are found in the South Western Ghats in India. What are these type forests also known as?**

Ans
- ✗ 1. Evergreen
- ✓ 2. Shola
- ✗ 3. Terai
- ✗ 4. Thorn

Question ID : **6549785061**
Status : **Answered**
Chosen Option : **1**

Q.12 **A drop of food colouring spreading out in a cup of water is an example of:**

Ans
- ✗ 1. effusion
- ✗ 2. vapour pressure
- ✓ 3. diffusion
- ✗ 4. osmosis

Question ID : **6549785040**
Status : **Answered**
Chosen Option : **3**

Q.13 When is 'World Heart Day' celebrated every year?

Ans
1. August 29
2. September 29
3. August 19
4. September 19

Question ID : **6549785051**
Status : **Answered**
Chosen Option : **1**

Q.14 The Reserve Bank of India was established on April 1, 1935 in accordance with the provisions of the:

Ans
1. Reserve Bank of India Act, 1935
2. Reserve Bank of India Act, 1936
3. Reserve Bank of India Act, 1933
4. Reserve Bank of India Act, 1934

Question ID : **6549785037**
Status : **Answered**
Chosen Option : **4**

Q.15 'ASSOCHAM' is the 100 years old trade association of India. What does the acronym ASSOCHAM stand for?

Ans
1. Association of Chambers
2. The Associated chambers of commerce
3. The Associated chambers of commerce and industry of India
4. The Associated chambers of Trade and commerce

Question ID : **6549785039**
Status : **Answered**
Chosen Option : **2**

Q.16 Who has been appointed as a Senior Security Adviser in the Union Home Ministry in December 2019?

Ans
1. K Shiva Kumar
2. Ajit Doval
3. K Vijay Kumar
4. S Jaishankar

Question ID : **6549785074**
Status : **Answered**
Chosen Option : **2**

Q.17 Who among the following won the Nobel Prize for Physics in 1930?

Ans
✔ 1. CV Raman
✘ 2. Birbal Sahni
✘ 3. SN Bose
✘ 4. Meghnad Saha

Question ID : **6549785052**
Status : **Answered**
Chosen Option : **1**

Q.18 What is the correct full form of NRC?

Ans
✔ 1. National Register of Citizens
✘ 2. National Registration of Citizenship
✘ 3. National Register of Census
✘ 4. National Record of Citizens

Question ID : **6549785031**
Status : **Answered**
Chosen Option : **2**

Q.19 Who has been appointed as a Deputy Governor of RBI in January 2020?

Ans
✘ 1. S S Mundra
✔ 2. Michael Patra
✘ 3. Viral V Acharya
✘ 4. Urjit R Patel

Question ID : **6549785038**
Status : **Answered**
Chosen Option : **3**

Q.20 Who was the founder of the 'Bhoodan Yajna' (Land-Gift Movement)?

Ans
✘ 1. Mahatma Gandhi
✘ 2. Jayaprakash Narayan
✔ 3. Vinoba Bhave
✘ 4. Baba Amte

Question ID : **6549785067**
Status : **Answered**
Chosen Option : **4**

Q.21 **Pseudopodia refers to:**

Ans
1. head like projection filled with protoplasm
2. organs which are helpful for digestion
3. an arm like projection filled with cytoplasm
4. organs used to killing another cells

Question ID : **6549785049**
Status : **Not Answered**
Chosen Option : **--**

Q.22 **Which of the following union territories serves as the joint capital of two states?**

Ans
1. Puducherry
2. Ladakh
3. Chandigarh
4. Lakshadweep

Question ID : **6549785058**
Status : **Answered**
Chosen Option : **1**

Q.23 **ISRO had chosen GSLV Mk III to launch the Chandrayaan-2 spacecraft. What does the abbreviation GSLV stand for?**

Ans
1. Geosynchronous Satellite Launch Vehicle
2. Geostationary Satellite Launch Vehicle
3. Geosynchronous Satellite Landing Vehicle
4. Geostationary Satellite Landing Vehicle

Question ID : **6549785042**
Status : **Answered**
Chosen Option : **2**

Q.24 **What is the name of the biggest fish in the ocean?**

Ans
1. Humpback Whale
2. Whale Shark
3. Bazooka Whale
4. Blue Whale

Question ID : **6549785044**
Status : **Answered**
Chosen Option : **4**

Q.25 **Which of the following passes is located at the tri-junction border of India, China and Myanmar?**

Ans
✔ 1. Diphu
✘ 2. Bum
✘ 3. Tulung
✘ 4. Khardung

Question ID : **6549785064**
Status : **Not Answered**
Chosen Option : **--**

Q.26 **The Global Climate Strike, which took place from 20 September 2019 to 27 September 2019, was organised by:**

Ans
✘ 1. Sundays For Future
✔ 2. Fridays For Future
✘ 3. Tuesdays For Future
✘ 4. Thursdays For Future

Question ID : **6549785034**
Status : **Answered**
Chosen Option : **2**

Q.27 **Who among the following became the first woman Republic Day Parade Adjutant in January 2020?**

Ans
✘ 1. Gunjan Saxena
✘ 2. Mitali Madhumita
✘ 3. Seema Rao
✔ 4. Tania Shergill

Question ID : **6549785071**
Status : **Answered**
Chosen Option : **4**

Q.28 **Which of the following regions is known as the 'roof of the world'?**

Ans
✘ 1. Bhutan
✔ 2. Tibet
✘ 3. Ladakh
✘ 4. Nepal

Question ID : **6549785059**
Status : **Answered**
Chosen Option : **2**

Q.29 The cornea is a part of the _____ in the human body.

Ans
✗ 1. mouth
✓ 2. eyes
✗ 3. nose
✗ 4. ears

Question ID : **6549785043**
Status : **Answered**
Chosen Option : **2**

Q.30 "Do not wait for leaders; do it alone, person to person". Who said this famous line?

Ans
✗ 1. Ramkrishna Paramhansa
✗ 2. Dayanand Sarswati
✓ 3. Mother Teresa
✗ 4. Swami Vivekanand

Question ID : **6549785069**
Status : **Answered**
Chosen Option : **4**

Q.31 Who among the following moved 'objective resolution' in the constituent assembly?

Ans
✗ 1. Sardar Patel
✗ 2. BN Rau
✓ 3. Jawaharlal Nehru
✗ 4. BR Ambedkar

Question ID : **6549785073**
Status : **Answered**
Chosen Option : **3**

Q.32 Which of the following is the most common isotope of Hydrogen?

Ans
✗ 1. Tritium
✓ 2. Protium
✗ 3. Neutron
✗ 4. Deuterium

Question ID : **6549785041**
Status : **Answered**
Chosen Option : **4**

Q.33 Who is known as India's 'Metro Man'?

Ans
1. Amartya Sen
2. E Sreedharan
3. JRD Tata
4. Indira Gandhi

Question ID : **6549785056**
Status : **Answered**
Chosen Option : **2**

Q.34 Norwegian saltpeter is a synonym for which of the following chemicals?

Ans
1. Calcium chloride
2. Calcium phosphate
3. Calcium carbonate
4. Calcium nitrate

Question ID : **6549785047**
Status : **Not Answered**
Chosen Option : **--**

Q.35 Which of the following is NOT a noble gas?

Ans
1. Helium
2. Xenon
3. Hydrogen
4. Argon

Question ID : **6549785048**
Status : **Answered**
Chosen Option : **3**

Q.36 How can you identify a marsupial?

Ans
1. They do not have a tail
2. They live in swamps
3. They live in water
4. They raise their young in a pouch

Question ID : **6549785050**
Status : **Not Answered**
Chosen Option : **--**

Q.37 **Which of the following is NOT an operating system?**

Ans
- ✗ 1. Linux
- ✓ 2. Google Chrome
- ✗ 3. Microsoft Windows
- ✗ 4. MS-DOS

Question ID : **6549785029**
Status : **Answered**
Chosen Option : **2**

Q.38 **Which state had been declared as a 'disturbed' area under the Armed Forces Act, in June 2019?**

Ans
- ✓ 1. Nagaland
- ✗ 2. Mizoram
- ✗ 3. Tripura
- ✗ 4. Assam

Question ID : **6549785075**
Status : **Answered**
Chosen Option : **1**

Q.39 **Alveoli are an important part of the:**

Ans
- ✗ 1. circulatory system
- ✗ 2. digestive system
- ✓ 3. respiratory system
- ✗ 4. nervous system

Question ID : **6549785055**
Status : **Answered**
Chosen Option : **3**

Q.40 **Which cricketer won the Polly Umrigar Award for best international cricketer for 2018-19?**

Ans
- ✓ 1. Jasprit Bumrah
- ✗ 2. Rohit Sharma
- ✗ 3. Hardik Pandya
- ✗ 4. Virat Kohli

Question ID : **6549785070**
Status : **Answered**
Chosen Option : **1**

Q.41 The mutiny in which of the following cities marked the beginning of the Revolt of 1857?

Ans
✔ 1. Meerut
✘ 2. Delhi
✘ 3. Jhansi
✘ 4. Lucknow

Question ID : **6549785066**
Status : **Answered**
Chosen Option : **1**

Q.42 What is the liquid component of blood?

Ans
✘ 1. White Blood Cells
✘ 2. Platelets
✔ 3. Plasma
✘ 4. Red Blood Cells

Question ID : **6549785046**
Status : **Answered**
Chosen Option : **3**

Q.43 Identify the newest (as of January 2020) Union Territory of India from among the following.

Ans
✔ 1. Ladakh
✘ 2. Puducherry
✘ 3. Chandigarh
✘ 4. Daman and Diu

Question ID : **6549785033**
Status : **Answered**
Chosen Option : **1**

Q.44 Which of the following is an autobiographical work by Dr. BR Ambedkar that is used as a text book in the Columbia University (US)?

Ans
✔ 1. Waiting for a Visa
✘ 2. Riddles in Hinduism
✘ 3. Who were the Shudras?
✘ 4. Annihilation of Caste

Question ID : **6549785068**
Status : **Answered**
Chosen Option : **4**

Q.45 **Which of the following is the world's fastest ant species?**

Ans
- ✔ 1. Saharan silver ant
- ✘ 2. Melophorus
- ✘ 3. Sahara desert ant
- ✘ 4. Army ant

Question ID : **6549785057**
Status : **Not Answered**
Chosen Option : **--**

Q.46 **Which of the following web portals was launched by the Department of Telecom (DoT) in December 2019 to facilitate blocking and tracing of stolen/lost mobile phones in Delhi?**

Ans
- ✔ 1. Central Equipment Identity Register
- ✘ 2. Register for Equipment Identity
- ✘ 3. Central Government Register for Equipment Identity
- ✘ 4. Central Register for Equipment Identity

Question ID : **6549785036**
Status : **Not Answered**
Chosen Option : **--**

Q.47 **ICC Cricket World Cup 2019 was held in:**

Ans
- ✘ 1. India and Sri Lanka
- ✔ 2. England and Wales
- ✘ 3. Australia and New Zealand
- ✘ 4. India and Pakistan

Question ID : **6549785077**
Status : **Answered**
Chosen Option : **2**

Q.48 **Which of the following teams lifted the 7th National Ice Hockey Championship Women's trophy in January 2020?**

Ans
- ✘ 1. Chandigarh
- ✔ 2. Ladakh
- ✘ 3. Maharashtra
- ✘ 4. Tamil Nadu

Question ID : **6549785078**
Status : **Answered**
Chosen Option : **1**

Q.49 As per the modern periodic table, which of the following is the element with atomic number 89?

Ans
✗ 1. Radium
✗ 2. Promethium
✓ 3. Actinium
✗ 4. Dubnium

Question ID : **6549785053**
Status : **Not Answered**
Chosen Option : **--**

Q.50 Which of the following caves is NOT included in the list of the UNESCO World Heritage Sites?

Ans
✓ 1. Karla Caves
✗ 2. Ellora Caves
✗ 3. Elephanta Caves
✗ 4. Ajanta Caves

Question ID : **6549785065**
Status : **Answered**
Chosen Option : **1**

Section : **General Engineering Mechanical**

Q.1 γ–iron has structure :

Ans
✗ 1. BCC
✓ 2. FCC
✗ 3. HCP
✗ 4. SC

Question ID : **6549785174**
Status : **Answered**
Chosen Option : **1**

Q.2 Toggle mechanism is NOT used in:

Ans
✓ 1. gear cutting
✗ 2. embossing
✗ 3. switches
✗ 4. stone crushing

Question ID : **6549785079**
Status : **Answered**
Chosen Option : **2**

Q.3 The condition for the length of convergent part (L) and the length of divergent part (L_1) in a venturimeter is:

Ans

✗ 1. there is no such restrictions for the length of convergent and divergent parts

✗ 2. length of convergent part is equal to length of divergent part

✓ 3. length of convergent part is less than length of divergent part

✗ 4. length of convergent part is greater than length of divergent part

Question ID : **6549785161**
Status : **Answered**
Chosen Option : **3**

Q.4 Slip in case of a centrifugal pump:

Ans

✗ 1. increases the energy transfer

✓ 2. reduces the energy transfer

✗ 3. reduces flow rate

✗ 4. increases the flow rate

Question ID : **6549785173**
Status : **Answered**
Chosen Option : **4**

Q.5 The flow field is expressed as u = a cosα and v = a sinα for constant a and α. The equation of streamline passing through origin in this flow field is calculated by:

Ans

✓ 1. $y = x \tan\alpha$

✗ 2. $y = \frac{x}{tan\alpha}$

✗ 3. $Y = x^2 \tan\alpha$

✗ 4. $Y = x^2$

Question ID : **6549785157**
Status : **Answered**
Chosen Option : **1**

Q.6 A cylindrical metal bar of 12 mm diameter is loaded by an axial force of 20 kN results in change in diameter by 0.003 mm. Poisson's ratio is given by: (Assume modulus of rigidity = 80 GPa)

Ans
1. 0.025 ✗
2. 0.2923 ✓
3. 0.56 ✗
4. 0.056 ✗

Question ID : **6549785086**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.7 In Bell-Coleman cycle, the refrigeration effect happens at constant:

Ans
1. volume ✗
2. pressure ✓
3. entropy ✗
4. enthalpy ✗

Question ID : **6549785131**
Status : **Answered**
Chosen Option : **2**

Q.8 If a thermometer is used to measure temperature in a moving steam in a nozzle, it measures _____ temperature.

Ans
1. dynamic ✗
2. wet-bulb ✗
3. static ✗
4. stagnation ✓

Question ID : **6549785139**
Status : **Answered**
Chosen Option : **4**

Q.9 In Kaplan Turbine, the flow velocity:

Ans
1. is constant along the radius ✓
2. inversely proportional to the radius ✗
3. directly proportional to the radius ✗
4. maximum at midpoint of the radius ✗

Question ID : **6549785168**
Status : **Answered**
Chosen Option : **3**

Q.10 Strain has dimension as:

Ans
1. $M^0L^1T^0$
2. $M^0L^0T^0$
3. $M^0L^0T^1$
4. $M^1L^0T^0$

Question ID : **6549785084**
Status : **Answered**
Chosen Option : **2**

Q.11 The most appropriate example of _____ boiler is Cornish boiler.

Ans
1. multi-tubular
2. flue gas
3. water tube
4. fire tube

Question ID : **6549785117**
Status : **Answered**
Chosen Option : **4**

Q.12 Using a dynamometer, _____ power of an IC engine is determined.

Ans
1. brake
2. indicated
3. fuel
4. friction

Question ID : **6549785104**
Status : **Answered**
Chosen Option : **1**

Q.13 Pick the correct order of various turbines with respect to specific speed.

Ans
1. Pelton > Kaplan > Francis
2. Kaplan > Francis > Pelton
3. Francis > Pelton > Kaplan
4. Kaplan > Pelton > Francis

Question ID : **6549785165**
Status : **Answered**
Chosen Option : **2**

Q.14 A closed container is termed as boiler if its volume exceeds _____ litres.

Ans
1. 50 ✗
2. 10 ✗
3. 100 ✗
4. 22.75 ✓

Question ID : **6549785114**
Status : **Answered**
Chosen Option : **3**

Q.15 In an isentropic process, the pressure P of a gas varies with temperature T as $P = kT^{5/2}$ where k is a constant. The ratio γ $(= Cp/Cv)$ of the gas is:

Ans
1. $\frac{5}{3}$ ✓
2. $\frac{7}{5}$ ✗
3. $\frac{3}{2}$ ✗
4. $\frac{9}{5}$ ✗

Question ID : **6549785091**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.16 TTT curves are _____ curves.

Ans
1. isentropic ✗
2. isothermal ✓
3. adiabatic ✗
4. isochoric ✗

Question ID : **6549785175**
Status : **Answered**
Chosen Option : **2**

Q.17 Direction of a natural process is dictated by the _____ law of thermodynamics.

Ans
1. second ✓
2. first ✗
3. zeroth ✗
4. third ✗

Question ID : **6549785096**
Status : **Answered**
Chosen Option : **1**

Q.18 A rubber ball is thrown vertically upward with a velocity u from the top of a building. It strikes the ground with a velocity 3u. The time taken by the ball to reach the ground is given by:

Ans
1. 3u/g ✗
2. u/g ✗
3. 2u/g ✗
4. 4u/g ✓

Question ID : **6549785085**
Status : **Answered**
Chosen Option : **3**

Q.19 Fusible plug is used in a boiler to/for:

Ans
1. extinguish the fire ✓
2. preheat steam ✗
3. superheating the steam ✗
4. discharge excess water ✗

Question ID : **6549785124**
Status : **Answered**
Chosen Option : **1**

Q.20 In a bucket of water, Piezometric head:

Ans
1. decreases in horizontal direction ✗
2. increases linearly in vertical direction ✓
3. remains constant at every point ✗
4. increases in horizontal direction ✗

Question ID : **6549785149**
Status : **Answered**
Chosen Option : **3**

Q.21 Carbon percentage present in iron more than 4.3% is termed as:

Ans
1. hypoeutectic CI ✗
2. Hypereutectoid steel ✗
3. Hypoeutectoid steel ✗
4. hypereutectic CI ✓

Question ID : **6549785178**
Status : **Answered**
Chosen Option : **4**

Q.22 Which of the following is NOT an accessory of a boiler?

Ans
✔ 1. Condenser
✘ 2. Air preheater
✘ 3. Economiser
✘ 4. Water pump for feeding

Question ID : **6549785119**
Status : **Answered**
Chosen Option : **1**

Q.23 Critical temperature of water in degrees is:

Ans
✘ 1. 273
✘ 2. 273.15
✔ 3. 374.15
✘ 4. 100

Question ID : **6549785088**
Status : **Answered**
Chosen Option : **3**

Q.24 Water is flowing in a pipe of 200 cm diameter under a pressure head of 10000 cm. The thickness of the pipe wall is 0.75 cm. The tensile stress in the pipe wall in MPa is:

Ans
✘ 1. 1305
✔ 2. 130.5
✘ 3. 13.05
✘ 4. 100

Question ID : **6549785152**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.25 If x represents the dryness fraction of steam, the specific volume of wet steam is given by:

Ans
✘ 1. Xv_f
✘ 2. X^2v_g
✔ 3. xv_g
✘ 4. X^2v_f

Question ID : **6549785090**
Status : **Answered**
Chosen Option : **3**

Q.26 Steam jet draught is used in _____ boiler(s).

Ans
✗ 1. Lancashire and Cochran
✓ 2. locomotive
✗ 3. Lancashire
✗ 4. Cochran

Question ID : **6549785122**
Status : **Answered**
Chosen Option : **2**

Q.27 Which of the following processes is NOT comprised by Diesel cycle?

Ans
✗ 1. Rejection of heat at constant volume
✓ 2. Addition of heat at constant volume
✗ 3. Addition of heat at constant pressure
✗ 4. Adiabatic expansion and compression

Question ID : **6549785099**
Status : **Answered**
Chosen Option : **2**

Q.28 Air is compressed in a single stage reciprocating compressor at the rate of 1 kg/s from 1 bar at 22°C to 8 bar. If $\gamma = 1.4$ and R = 287 J/kg.K for air, also take $(8)^{0.286} = 1.812$ and $\ln(8) = 2.079$, Difference in work required if compression was isentropic and isothermal :

Ans
✗ 1. 240.45 kW
✗ 2. 176.06 kW
✓ 3. 64.39 kW
✗ 4. 218.32 kW

Question ID : **6549785129**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.29 Throttling calorimeter measures dryness fraction up to:

Ans
✓ 1. 0.98
✗ 2. 0.68
✗ 3. 0.76
✗ 4. 0.56

Question ID : **6549785089**
Status : **Answered**
Chosen Option : **1**

Q.30 Reversed Brayton cycle is identical with:

Ans
1. Rankine
2. Dual
3. Bell-Coleman
4. Reversed Carnot

Question ID : **6549785130**
Status : **Answered**
Chosen Option : **3**

Q.31 Which of the following does NOT require flue gas for operation?

Ans
1. Economiser
2. Superheater
3. Preheater
4. Injector

Question ID : **6549785118**
Status : **Answered**
Chosen Option : **4**

Q.32 'The rate of change of momentum is equal to the applied force and it takes place in the direction of the force' is a statement of:

Ans
1. Continuity equation
2. Darcy`s equation
3. Impulse - Momentum of equation
4. Pascal`s equation

Question ID : **6549785159**
Status : **Answered**
Chosen Option : **3**

Q.33 If mechanical efficiency of a Pelton Turbine is 80% and its hydraulic efficiency is 85%, its overall efficiency will be:

Ans
1. 75%
2. 72%
3. 68%
4. 50%

Question ID : **6549785167**
Status : **Answered**
Chosen Option : **3**

Q.34 Dimension of absolute pressure is:

Ans
1. $M^1L^{-1}T^{-1}$
2. $M^1L^1T^{-2}$
3. $M^1L^{-1}T^{--2}$
4. $M^1L^{-1}T^{-2}$

Question ID : **6549785146**
Status : **Answered**
Chosen Option : **4**

Q.35 Rankine cycle efficiency is _____ than/as Carnot cycle efficiency if both work under the same operating temperatures.

Ans
1. more
2. Same
3. Can be less or more
4. less

Question ID : **6549785110**
Status : **Answered**
Chosen Option : **4**

Q.36 A velocity potential function exits when the flow is:

Ans
1. irrotational
2. tangential
3. parallel
4. rotational

Question ID : **6549785156**
Status : **Answered**
Chosen Option : **1**

Q.37 Bourdon gauge is used to measure _____ pressure.

Ans
1. gauge
2. absolute
3. standard atmospheric
4. local atmospheric

Question ID : **6549785150**
Status : **Answered**
Chosen Option : **2**

Q.38 Ideal refrigeration system is used to cool the system at 5°C. Heat rejection happens at 100°C. If ambient temperature is 30°C, COP of the system is:

Ans

✗ 1. 3.54

✓ 2. 2.93

✗ 3. 4.05

✗ 4. 1.56

Question ID : **6549785132**
Status : **Answered**
Chosen Option : **1**

Q.39 Using Willan's line, _____ power of an engine is calculated.

Ans

✗ 1. indicated

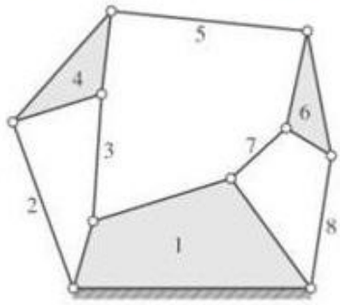
✗ 2. brake

✗ 3. theoretical indicated

✓ 4. frictional

Question ID : **6549785102**
Status : **Answered**
Chosen Option : **4**

Q.40 Mobility of the shown mechanism is:



Ans

✗ 1. 3

✓ 2. 1

✗ 3. 0

✗ 4. 2

Question ID : **6549785082**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.41 If metacentric height of a floating object is positive, the object will be in:

Ans
1. stable or unstable equilibrium
2. stable equilibrium
3. neutral equilibrium
4. unstable equilibrium

Question ID : **6549785148**
Status : **Answered**
Chosen Option : **2**

Q.42 An air refrigeration system works on Bell-Coleman cycle. It draws air at the rate of 1 kg/s from the cold chamber at 1 bar and 5°C. Air is compressed to 7 bar and then is cooled to 25°C before sending it to expansion cylinder. Given $\gamma = 1.4$ $c_p = 1.005$ kJ/kg.K and $7^{0.286} = 1.745$. Refrigeration effect for this system in tonne per hour, is:

Ans
1. 1.58
2. 30.6
3. 15.8
4. 3.06

Question ID : **6549785138**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.43 The compressor can deliver maximum theoretical volume of air known as:

Ans
1. swept volume + clearance volume
2. free volume
3. total volume
4. swept volume

Question ID : **6549785125**
Status : **Answered**
Chosen Option : **4**

Q.44 Refrigerant-22 has chemical formula:

Ans
1. $CClF_3$
2. CCl_2F_3
3. $CHClF_2$
4. CCl_3F

Question ID : **6549785135**
Status : **Answered**
Chosen Option : **3**

Q.45 Air is compressed is entropically in a compressor from 1 bar to 5 bar. Assuming $\gamma = 1.4$ for air and clearance volume is 5% of swept volume, the volumetric efficiency of the compressor is (Take $(5)^{0.714} = 3.157$):

Ans

✗ 1. 93.01%

✓ 2. 89.21%

✗ 3. 99.21%

✗ 4. 92.67%

Question ID : **6549785128**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.46 On T-S diagram, constant pressure line slope is expressed as:

Ans

✓ 1. T/c_p

✗ 2. $Cp/\gamma T$

✗ 3. T/S

✗ 4. S/T

Question ID : **6549785098**
Status : **Answered**
Chosen Option : **1**

Q.47 To achieve maximum efficiency in practice, centrifugal pump has blades that are:

Ans

✗ 1. Sine curve

✓ 2. bent backward

✗ 3. bent forward

✗ 4. straight

Question ID : **6549785172**
Status : **Answered**
Chosen Option : **2**

Q.48 If the velocity of flow at a particular point or at a section does NOT change with respect to time, then the flow is known as:

Ans

✓ 1. steady flow

✗ 2. unsteady flow

✗ 3. laminar flow

✗ 4. turbulent flow

Question ID : **6549785154**
Status : **Answered**
Chosen Option : **1**

Q.49 If regeneration is used in Rankine cycle system, under ideal condition efficiency _____ Carnot cycle.

Ans
1. will be more than
2. may be more than
3. will be equal to
4. will be less than

Question ID : **6549785112**
Status : **Answered**
Chosen Option : **3**

Q.50 If density of mercury is 13.58 g/cc, pressure of 4 kPa is equivalent to:

Ans
1. 15.02 mm Hg
2. 100 mm Hg
3. 30.04 mm Hg
4. 60.08 mm Hg

Question ID : **6549785145**
Status : **Answered**
Chosen Option : **3**

Q.51 Lead screw of a lathe machine is an example of a _____ pair.

Ans
1. rolling
2. screw
3. turning
4. sliding

Question ID : **6549785080**
Status : **Answered**
Chosen Option : **2**

Q.52 In a nozzle, steam is flowing. If the back pressure is equal to the critical pressure, the mass flow rate of steam is:

Ans
1. maximum
2. minimum
3. zero
4. mean

Question ID : **6549785140**
Status : **Answered**
Chosen Option : **3**

Q.53 all reaction turbine will have maximum efficiency if swirl velocity at the outlet will be equal to:

Ans
1. zero
2. runner outlet velocity
3. runner inlet velocity
4. inlet swirl velocity

Question ID : **6549785164**
Status : **Answered**
Chosen Option : **1**

Q.54 A Diesel engine has cut-off ratio 2 and compression ratio 20. Assuming $\gamma = 1.4$ for air, its air standard efficiency will be (Use $(2)^{1.4} = 2.639$):

Ans
1. 72.3%
2. 64.7%
3. 54.5%
4. 39.6%

Question ID : **6549785101**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.55 Pick the correct example of fire-tube boiler.

Ans
1. Cochran
2. Wilcox
3. Benson
4. La-Mont

Question ID : **6549785113**
Status : **Answered**
Chosen Option : **1**

Q.56 Operating pressure for once through boiler is:

Ans
1. subcritical and critical
2. critical
3. subcritical
4. super-critical

Question ID : **6549785120**
Status : **Answered**
Chosen Option : **4**

Q.57 Brake thermal efficiency of a 15 kW IC engine is 30%. If the fuel used has CV 40 MJ/kg, then fuel consumption rate in kg/h is:

Ans
1. 2.5 ✗
2. 4.5 ✓
3. 3 ✗
4. 1 ✗

Question ID : **6549785106**
Status : **Answered**
Chosen Option : **1**

Q.58 The numerical designation of air as refrigerant is:

Ans
1. 729 ✓
2. 744 ✗
3. 718 ✗
4. 717 ✗

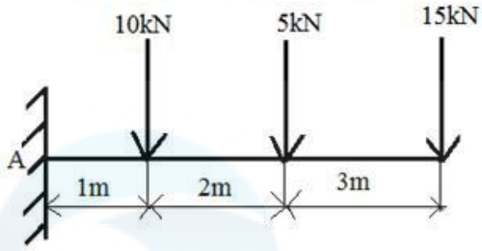
Question ID : **6549785134**
Status : **Answered**
Chosen Option : **1**

Q.59 The absolute pressure at a depth of 500 cm below the surface of a fluid of relative density 0.85 is equal to:

Ans
1. 14.10 MPa ✗
2. 1.410 MPa ✗
3. 0.141 MPa ✓
4. 141.0 MPa ✗

Question ID : **6549785151**
Status : **Answered**
Chosen Option : **3**

Q.60 The reaction and bending moments at point A of the cantilever beam are:



Ans
1. $R_A = 30kN$ and $M_A = -115kNm$
2. $R_A = 30kN$ and $M_A = 0kNm$
3. $R_A = 0kN$ and $M_A = -115kNm$
4. $R_A = 30kN$ and $M_A = -125kNm$

Question ID : **6549785087**
Status : **Answered**
Chosen Option : **1**

Q.61 Discharge over cipolletti weir of length 200 cm for a head over weir of 100 cm in m^3/s is:

Ans
1. 36.6
2. 0.00366
3. 0.366
4. 3.66

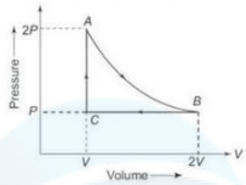
Question ID : **6549785162**
Status : **Not Answered**
Chosen Option : **--**

Q.62 A Carnot refrigerator is used to maintain temperature at -30°C that requires 1.28 kW per ton of refrigeration. The heat rejected in kW per tonne refrigeration is:

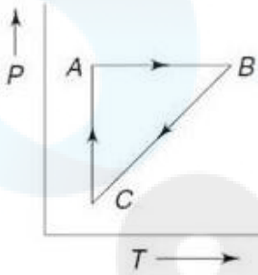
Ans
1. 4.78
2. 2.78
3. 5.45
4. 3.5

Question ID : **6549785133**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

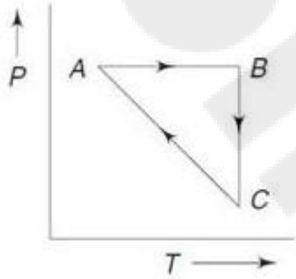
Q.63 Figure shows the P-V diagram for a fixed mass of an ideal gas undergoing cyclic process ABCA. AB represents isothermal process. Which of the graphs shown in Figure represents the *P-T* diagram of the cyclic process?



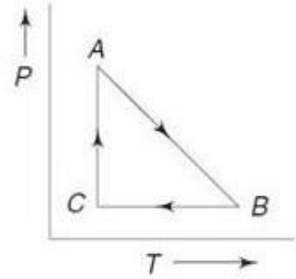
Ans



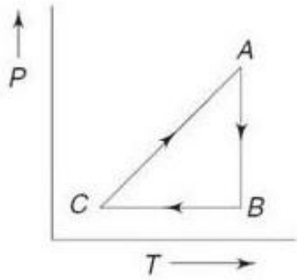
✗ 1.



✗ 2.



✗ 3.



✓ 4.

Question ID : **6549785094**
Status : **Answered**
Chosen Option : **4**

Q.64 For fluid the shear stress is directly proportional to:

Ans
1. strain
2. strain rate
3. shape
4. size

Question ID : **6549785143**
Status : **Answered**
Chosen Option : **2**

Q.65 When solidification starts, iron will appear in _____ form.

Ans
1. gamma
2. beta
3. delta
4. alpha

Question ID : **6549785177**
Status : **Answered**
Chosen Option : **4**

Q.66 At _____ point in a flow field, the components of the velocity vector are identically zero.

Ans
1. unsteady
2. stagnation
3. steady
4. uniform

Question ID : **6549785155**
Status : **Answered**
Chosen Option : **2**

Q.67 In an IC engine, the type of lubrication system used for bearing is mainly:

Ans
1. boundary
2. static
3. hydrodynamic
4. mixed-film

Question ID : **6549785109**
Status : **Answered**
Chosen Option : **3**

Q.68 Maximum efficiency of heat engine is produced by _____ cycle:

Ans
1. Otto
2. dual
3. Diesel
4. Carnot

Question ID : **6549785095**
Status : **Answered**
Chosen Option : **4**

Q.69 In an isentropic process, the pressure of a monoatomic ideal gas increases by 0.5%. The volume will decrease (in %) by (Take $(0.995)^{0.625} = 0.997$):

Ans
1. 0.3
2. 0.4
3. 0.2
4. 0.1

Question ID : **6549785092**
Status : **Not Answered**
Chosen Option : **--**

Q.70 The coefficient of velocity, C_v for an orifice is 0.98. Head loss at the orifice for discharge under a head of 200 cm is:

Ans
1. 2 cm
2. 80 cm
3. 8 cm
4. 0.8 cm

Question ID : **6549785163**
Status : **Not Answered**
Chosen Option : **--**

Q.71 A diatomic gas is enclosed in a piston cylinder arrangement at a pressure of 3 bar and 300 K. The cylinder has the volume of 1.5 m^3. The process undergoes isothermal expansion to 3 m^3. If the gas has a gas constant as 1.486 kJ/kg, using, ln2 = 0.693, entropy change during the above process in kJ/kg is:

Ans
1. 1.03
2. 1.65
3. 1.15
4. 1.20

Question ID : **6549785097**
Status : **Not Answered**
Chosen Option : **--**

Q.72 Draught is produced in locomotive boiler by:

Ans
1. locomotion ✗
2. chimney ✗
3. steam jet ✓
4. critical fan ✗

Question ID : **6549785121**
Status : **Answered**
Chosen Option : **3**

Q.73 In a free vortex, the flow is:

Ans
1. rotational or irrotational ✗
2. irrotational ✓
3. rotational ✗
4. neither rotational nor irrotational ✗

Question ID : **6549785158**
Status : **Answered**
Chosen Option : **2**

Q.74 If an IC engine consumes fuel at the rate of 1 g/s and if the air-fuel ratio for it is 20, the mass flow rate of exhaust gas in g/s is:

Ans
1. 19 ✗
2. 21 ✓
3. 20 ✗
4. 1 ✗

Question ID : **6549785105**
Status : **Not Answered**
Chosen Option : **--**

Q.75 In a floating body, the buoyancy force acts through the centre of gravity of the displaced volume of the fluid is termed as:

Ans
1. centre of gravity ✗
2. centre of buoyancy ✓
3. centre of activity ✗
4. metacenter ✗

Question ID : **6549785147**
Status : **Answered**
Chosen Option : **2**

Q.76 Relation between shear stress and velocity gradient for Newtonian fluid is:

Ans
1. logarithmic
2. non-linear
3. exponential
4. linear

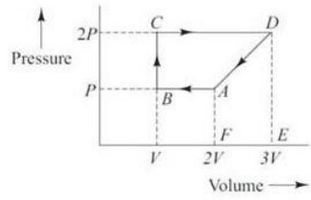
Question ID : **6549785142**
Status : **Answered**
Chosen Option : **4**

Q.77 A Francis turbine has an overall efficiency of 83%. If it develops power of 500 kW under a net head of 3000 cm, the discharge through turbine in m^3/s is:

Ans
1. 2.50
2. 2.05
3. 20.50
4. 25.0

Question ID : **6549785170**
Status : **Not Answered**
Chosen Option : **--**

Q.78 Figure shows the *P-V* diagram of an ideal gas. The work done by the gas in the process *ABCDA* is:



Ans
1. 2PV
2. 0.5PV
3. 1.5PV
4. 4PV

Question ID : **6549785093**
Status : **Answered**
Chosen Option : **3**

Q.79 If stress measuring device shows reading as 1 MPa. It is equivalent to:

Ans
✔ 1. 1 N/mm^2
✘ 2. 1 kN/mm^2
✘ 3. 1 MN/mm^2
✘ 4. 10 N/mm^2

Question ID : **6549785083**
Status : **Answered**
Chosen Option : **1**

Q.80 Morse test is used to find:

Ans
✘ 1. compression ratio
✔ 2. indicated Power
✘ 3. thermal efficiency
✘ 4. volumetric efficiency

Question ID : **6549785103**
Status : **Answered**
Chosen Option : **2**

Q.81 Air is compressed is entropically in a single stage single acting compressor from an initial condition of 1 bar and 30°C to 5 bar. If $\gamma = 1.4$ and $R = 287$ J/kg.K for air, work of compression for unit mass flow rate of air is (Use $(5)^{0.286} = 1.584$):

Ans
✘ 1. 198.3 kW
✘ 2. 17.769 kW
✘ 3. 205.8 kW
✔ 4. 177.69 kW

Question ID : **6549785127**
Status : **Not Answered**
Chosen Option : **--**

Q.82 During suction of air in CI engine, the pressure in cylinder will be _____ atmospheric.

Ans
✘ 1. equal to
✘ 2. more than
✘ 3. More or less as
✔ 4. less than

Question ID : **6549785126**
Status : **Answered**
Chosen Option : **4**

Q.83 Cementite has chemical formula:

Ans
1. Fe_4C
2. Fe_2C
3. Fe_3C
4. Fe_2C_2

Question ID : **6549785176**
Status : **Answered**
Chosen Option : **3**

Q.84 The process by which air inside a centrifugal pump is removed and filled with liquid to be pumped is called:

Ans
1. pumping
2. purging
3. sweeping
4. priming

Question ID : **6549785171**
Status : **Answered**
Chosen Option : **4**

Q.85 The water is flowing through a pipe having areas $0.05m^2$ and $0.01m^2$ at sections 1 and 2 respectively. The rate of flow through the pipe is 50 litres per second in section 1. The velocity at sections 1 and 2 are:

Ans
1. $V_1 = 0.1m/s$ and $V_2 = 5m/s$
2. $V_1 = 1m/s$ and $V_2 = 5m/s$
3. $V_1 = 0.1m/s$ and $V_2 = 0.5m/s$
4. $V_1 = 1m/s$ and $V_2 = 0.5m/s$

Question ID : **6549785160**
Status : **Not Answered**
Chosen Option : **--**

Q.86 In a refrigeration plant, removal of air to maintain pressure is termed as:

Ans
1. merging
2. surging
3. charging
4. purging

Question ID : **6549785136**
Status : **Answered**
Chosen Option : **4**

Q.87 The rate of steam generation in water tube boiler in comparison to fire tube boiler is:

Ans
✔ 1. more
✘ 2. more or less the same
✘ 3. equal
✘ 4. less

Question ID : **6549785116**
Status : **Answered**
Chosen Option : **1**

Q.88 Air-cooled engine's efficiency is _____ than/as water-cooled engine for the same power rating.

Ans
✔ 1. more
✘ 2. less
✘ 3. Same
✘ 4. More or less depends upon operation

Question ID : **6549785108**
Status : **Answered**
Chosen Option : **1**

Q.89 If fluid properties in a flow are constant with space at any instant of time, the flow is termed as:

Ans
✔ 1. uniform
✘ 2. unsteady
✘ 3. non-uniform
✘ 4. steady

Question ID : **6549785153**
Status : **Answered**
Chosen Option : **1**

Q.90 Rankine cycle has:

Ans
✘ 1. two adiabatic and two isobaric processes
✘ 2. two isochoric and two isobaric processes
✔ 3. two isentropic and two isobaric processes
✘ 4. two isothermal and two isobaric processes

Question ID : **6549785111**
Status : **Answered**
Chosen Option : **3**

Q.91 Sub-cooling in a vapour compression refrigeration system _____ enthalpy of liquid refrigerant below saturation level.

Ans

✔ 1. reduces

✘ 2. keeps same

✘ 3. enhances

✘ 4. may reduce or enhance

Question ID : **6549785137**
Status : **Answered**
Chosen Option : **1**

Q.92 The number of possible inversions for a mechanism with 10 numbers of links will be:

Ans

✘ 1. 5

✔ 2. 10

✘ 3. 0

✘ 4. 2

Question ID : **6549785081**
Status : **Answered**
Chosen Option : **2**

Q.93 A turbine rotates at 600 rpm. If moment of momentum of working fluid is reduced by 15.915 kNm, then power developed in MW is:

Ans

✘ 1. 1.5

✔ 2. 1

✘ 3. 2

✘ 4. 2.5

Question ID : **6549785169**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.94 Dimension of specific volume is:

Ans

✘ 1. $L^3M^1T^1$

✘ 2. $L^1M^3T^0$

✘ 3. $L^3M^1T^2$

✔ 4. $L^3M^{-1}T^0$

Question ID : **6549785144**
Status : **Answered**
Chosen Option : **4**

Q.95 In a multi-cylinder heavy duty engine, mainly _____ lubrication system is used.

Ans
1. splash and wet sump
2. splash
3. scoop feed
4. pressure feed

Question ID : **6549785107**
Status : **Answered**
Chosen Option : **1**

Q.96 The pressure ratio known as critical pressure ratio for maximum discharge through the nozzle is given by:

Ans
1. $\frac{p_2}{p_1} = \left(\frac{2}{n+1}\right)^{n-1/n}$
2. $\frac{p_2}{p_1} = \left(\frac{n+1}{2}\right)^{n-1/n}$
3. $\frac{p_2}{p_1} = \left(\frac{2}{n+1}\right)^{n/n-1}$
4. $\frac{p_2}{p_1} = \left(\frac{n+1}{2}\right)^{n/n-1}$

Question ID : **6549785141**
Status : **Answered**
Chosen Option : **3**

Q.97 Ratio of Power available at the rotor shaft to Power supplied by water to the runner is _____ efficiency.

Ans
1. hydraulic
2. volumetric
3. overall
4. mechanical

Question ID : **6549785166**
Status : **Answered**
Chosen Option : **1**

Q.98 _____ boiler is an example of once-through boilers.

Ans
✗ 1. Benson and La-Mont
✓ 2. Benson
✗ 3. La-Mont
✗ 4. Loeffler

Question ID : **6549785115**
Status : **Answered**
Chosen Option : **2**

Q.99 Steam trap in a boiler is primarily used for/to:

Ans
✓ 1. discharging the condensate
✗ 2. reheat the steam
✗ 3. lift the steam
✗ 4. separate the steam

Question ID : **6549785123**
Status : **Answered**
Chosen Option : **4**

Q.100 A heat engine works on dual cycle. It contains:

Ans
✗ 1. two isentropic, two isothermal and one isobaric processes
✗ 2. two adiabatic, two isothermal and one isobaric processes
✓ 3. two isentropic, two isochoric and one isobaric processes
✗ 4. two adiabatic, two isochoric and one isobaric processes

Question ID : **6549785100**
Status : **Answered**
Chosen Option : **3**