

# Andhra Pradesh State Council of Higher Education

## Notations :

- 1.Options shown in green color and with ✓ icon are correct.
- 2.Options shown in red color and with ✗ icon are incorrect.

<b>Question Paper Name :</b>	Marine Engineering 19th Oct 2022 Shift 1
<b>Duration :</b>	120
<b>Total Marks :</b>	140
<b>Display Marks:</b>	No
<b>Share Answer Key With Delivery Engine :</b>	Yes
<b>Calculator :</b>	None
<b>Magnifying Glass Required? :</b>	No
<b>Ruler Required? :</b>	No
<b>Eraser Required? :</b>	No
<b>Scratch Pad Required? :</b>	No
<b>Rough Sketch/Notepad Required? :</b>	No
<b>Protractor Required? :</b>	No
<b>Show Watermark on Console? :</b>	Yes
<b>Highlighter :</b>	No
<b>Auto Save on Console?</b>	Yes
<b>Change Font Color :</b>	No
<b>Change Background Color :</b>	No
<b>Change Theme :</b>	No
<b>Help Button :</b>	No
<b>Show Reports :</b>	No
<b>Show Progress Bar :</b>	No
<b>Is this Group for Examiner? :</b>	No
<b>Examiner permission :</b>	Cant View
<b>Show Progress Bar? :</b>	No

## Research Methodology

Section Id :	549470395
Section Number :	1
Mandatory or Optional :	Mandatory
Number of Questions :	59
Section Marks :	70
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Is Section Default? :	null

Question Number : 1 Question Id : 54947028107 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which is the independent variable in the process of teaching learning?

Options :

Student

1. ✘

Parents

2. ✘

Teacher

3. ✔

Education Institution

4. ✘

**Question Number : 2 Question Id : 54947028108 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the following is the pioneer in the concept of micro-teaching?

**Options :**

Oxford University

1. ✘

Stanford University

2. ✔

Delhi University

3. ✘

Madras University

4. ✘

**Question Number : 3 Question Id : 54947028109 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

When a student asks a question for which the teacher has no direct, correct answer, he should

**Options :**

Ask the student to find out the answer himself from the library

1. ✘

Tell the student not to put irrelevant questions

2. ✘

Provide some vague answer to satisfy the student

3. ✘

Tell the student that he would tell correct answer later

4. ✔

**Question Number : 4 Question Id : 54947028110 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the following is appropriate in the context of teacher- student relationship?

**Options :**

Informal and intimate

1. ✘

Cordial and peaceful

2. ✔

Indifferent

3. ✘

Restricted to classroom dynamic

4. ✘

**Question Number : 5 Question Id : 54947028111 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Assertion (A): Formative learning tends to accelerate the process of learning.

Reason (R): As against summative evaluation formative evaluation is highly reliable.

Choose the correct answer from the following code:

**Options :**

Both (A) and ( R) are true, and (R) is not the correct explanation of (A).

1. ✘

Both (A) and ( R) are true, and (R) is the correct explanation of (A).

2. ✘

(A) is true, but (R) is false.

3. ✔

(A) is false, but (R) is true.

4. ✘

**Question Number : 6 Question Id : 54947028112 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

During which year, Educational T V was introduced in India?

**Options :**

1. ✘ 1971

2. ✘ 1961

3. ✔ 1968

4. ✘ 1978

**Question Number : 7 Question Id : 54947028113 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The primary objective of N C T E – is \_\_\_\_\_

**Options :**

1. ✔ To maintain standards in education colleges.

2. ✘ To open education colleges.

3. ✘ To provide grant aid to education colleges.

4. ✘ To promote research in education.

**Question Number : 8 Question Id : 54947028114 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The quality of research is primarily adjudicated on the basis of

**Options :**

1. ✔ The rigour with which it was carried out .

2. ✘ The place of publication

3. ✘ The manner in which the action is taken on recommendations.

Quantitative aspects.

4. ✖

**Question Number : 9 Question Id : 54947028115 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

A research which has explored ideas based on the new facts through the study of the past is called.

Options :

Historical research

1. ✔

Mythological research

2. ✖

Content analysis

3. ✖

Philosophical research

4. ✖

**Question Number : 10 Question Id : 54947028116 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**



Which of the following is not a research method?

Options :

Historical

1. ✘

Survey

2. ✘

Philosophical

3. ✘

Observation

4. ✔

Question Number : 11 Question Id : 54947028117 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

\_\_\_\_\_ is not required in experimental researches.

Options :

Manipulation

1. ✘

Controlling

2. ✘

Content analysis

3. ✔

Observation

4. ✘

**Question Number : 12 Question Id : 54947028118 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the following, a satisfactory statistical quantitative method should not possess?

**Options :**

Measurability

1. ✘

Flexibility

2. ✔

Appropriateness

3. ✘

## Comparability

4. ✖

**Question Number : 13 Question Id : 54947028119 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the following is specifically related to a research design?

- A. Designing Hypothesis
- B. Choice of field inquiry
- C. Sample selection
- D. Formulation of plan
- E. Deciding the tools to be employed in data collection

**Options :**

B, C, and D

1. ✖

A, B, and C

2. ✖

3. ✓ C, D, and E

4. ✘ B, D and E

**Question Number : 14 Question Id : 54947028120 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The acronym SPSS stands for:

**Options :**

1. ✘ Software Package for Social Sciences

2. ✓ Statistical Package for Social Sciences

3. ✘ Statistical Package for Studies in sociology

4. ✘ Statistical Package for social studies

**Is Section Default? :**

null

**Question Id : 54947028121 Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Question Numbers : (15 to 21)**

**Read the following passage carefully and answer the questions from 15 to 21:**

For the mobility-impaired, highly trained canines called ‘service dogs’ can pick up dropped keys, open and close drawers, retrieve prepared meals, help a person in and out of bathtub, dial 911, push and pull wheelchairs, help operate a car or van and pull off gloves, shoes, socks and jackets. Other dogs provide specific assistance to those who suffer seizures (sudden attacks of illness) and require special medication. And, of course, the helping dogs provide companionship, play and give unconditional love to the people they assist. It is thirty odd years now since the placement of the first assistance dog. But only in recent years, with the rising independent movement among disabled people has the idea begun to sored widely. While most service-dogs are trained to work with people who rely on wheelchairs, other categories of helping dogs include hearing –dogs who alert their owners to sounds, such as doorbells, phones, cooking times, alarm clocks, smoke alarms and seizure dogs which carry medication in their packs and are trained to dial 911 on large keypad phones.

**Sub questions**

**Question Number : 15 Question Id : 54947028122 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which kind of dogs, alerts their owners to sounds, such as doorbells and phones?

**Options :**

1. ✘ Service dogs

2. ✘ Canines

3. ✘ Seizure dogs

4. ✔ Hearing dogs

**Question Number : 16 Question Id : 54947028123 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The service-dogs are

**Options :**

1. ✘ Paid highly

2. ✘ Less in number

3. ✔ Multiple taskers



## Employees

4. ✘

**Question Number : 17 Question Id : 54947028124 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The idea of assistance dogs became popular due to

Options :

1. ✔ Independent movement among the disabled

2. ✘ awareness in hospitals

3. ✘ Independence of the country

4. ✘ Both independent movement among the disabled and awareness in hospitals

**Question Number : 18 Question Id : 54947028125 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The categorie of helping –dogs is

Options :

domestic, service and seizure dogs

1. ✘

service, hearing and seizure dogs

2. ✔

hunting and domestic dogs

3. ✘

hearing and domestic dogs

4. ✘

**Question Number : 19 Question Id : 54947028126 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The passage makes a distinct difference between

Options :

service and helping dogs

1. ✔



service dogs and canines

2. ✘

canines and ordinary dogs

3. ✘

Both service dogs and canines and canines and ordinary dogs

4. ✘

**Question Number : 20 Question Id : 54947028127 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

State the noun form of ‘ trained’

**Options :**

train

1. ✘

trainer

2. ✘

training

3. ✔

trainee

4. ✖

**Question Number : 21 Question Id : 54947028128 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which dogs are trained to work with people who rely on wheelchairs?

**Options :**

Hearing dogs

1. ✖

Siezure dogs

2. ✖

Service dogs

3. ✔

Street dogs

4. ✖

**Is Section Default? :** null

**Question Number : 22 Question Id : 54947028129 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the following is Berol's Linear Model of communication?

Options :

1. ✘ S-M-R-C
2. ✘ S-R-M-C
3. ✔ S-M-C-R
4. ✘ S-R-C-M

Question Number : 23 Question Id : 54947028130 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Communication which has no beginning or end is known as \_\_\_\_\_

Options :

1. ✔ Process
2. ✘ Meditation

Interaction

3. ✘

Transaction

4. ✘

**Question Number : 24 Question Id : 54947028131 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the following does not contribute to effective communication?

**Options :**

Adequate medium

1. ✘

Clarity in language

2. ✘

Listen poorly

3. ✔

Home communication skill

4. ✘

Question Number : 25 Question Id : 54947028132 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

\_\_\_\_\_An example of channel communication.

Options :

Face – to – face conversation

1. ✓

Noise

2. ✘

Feedback

3. ✘

Context

4. ✘

Question Number : 26 Question Id : 54947028133 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Among the following, which indicates the problem arising from expression?

Options :

Wrong assumption

1. ✘

Cultural barriers

2. ✘

Selecting perception

3. ✘

Semantic problems

4. ✔

**Question Number : 27 Question Id : 54947028134 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

In India, \_\_\_\_\_ is not the concern for mass media.

**Options :**

Privacy

1. ✘

Manipulation

2. ✘

Integration of society

3. ✔

## Security

4. ✘

**Question Number : 28 Question Id : 54947028135 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

2, 9, 28, 65, 126, 217, 344, \_\_\_\_\_

Options :

361

1. ✘

362

2. ✘

369

3. ✘

513

4. ✔

**Question Number : 29 Question Id : 54947028136 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

B, D, G, I, L, N \_\_\_\_\_

Options :

1. ✘ N
2. ✘ O
3. ✔ Q
4. ✘ P

Question Number : 30 Question Id : 54947028137 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

When "PAT" is coded as "QRBCUV", then how will you code "GRACE"?

Options :

1. ✘ HISTBCDEGF
2. ✔ HISTBCDEFG
3. ✘ HISBTCDEFG



## HISTBCEDFG

4. ✘

**Question Number : 31 Question Id : 54947028138 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

E is the son of A; D is the son of B; E is married to C; C is the daughter of B. How is D related to E?

**Options :**

Brother

1. ✘

Uncle

2. ✘

Brother-in-law

3. ✔

Father-in-law

4. ✘

**Question Number : 32 Question Id : 54947028139 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

$\frac{1}{5}$ <sup>th</sup> of Eiffel tower is painted with bronze,  $\frac{1}{4}$ <sup>th</sup> maroon and the rest, golden. If the height of golden-colored part is 450m, what is the height of Eiffel tower?

Options :

2,250m

1. ✘

750m

2. ✔

1000m

3. ✘

1,250m

4. ✘

Question Number : 33 Question Id : 54947028140 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Pankaj from the home with a speed of 30km/h, reaches the school late by 20 minutes. Next day by increasing the speed by 15km/h, reached the school late by 8 minutes. How far is the school from home?

Options :

35 km

1. ✘

2. ✓ 18 km

3. ✘ 20km

4. ✘ 27km

**Question Number : 34 Question Id : 54947028141 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

If 30 men carry out a piece of work in 27 days, how many days is required for 18 men to perform another piece of work, which is 3 times bigger

**Options :**

1. ✓ 135 days

2. ✘ 120 days

3. ✘ 150 days

180 days

4. ✘

Question Number : 35 Question Id : 54947028142 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If two liters of water is evaporated by boiling 8 liters of sugar solution with 5% sugar, findout the percentage of sugar in the remaining solution?

Options :

1. ✘ 8%

2. ✔  $6\frac{2}{3}\%$

3. ✘ 9%

4. ✘ 10%

Question Number : 36 Question Id : 54947028143 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A reasoning started with a particular statement and concluded with a universal statement is known as \_\_\_\_\_

Options :

Deductive reasoning

1. ✘

Transcendental reasoning

2. ✘

Inductive reasoning

3. ✔

Abnormal reasoning

4. ✘

Question Number : 37 Question Id : 54947028144 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following is not an argument?

Options :

Devadutt does not eat during day, so he must be eating at night.

1. ✘

Devadutt eats in the night, so he does not eat during the day

2. ✘

If Devadutt is growing fat and if he does not eat during the day, he will be eating at night.

3. ✔

Since Devadutt does not eat in the day, he must be eating in the night.

4. ✘

**Question Number : 38 Question Id : 54947028145 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Two propositions with the same subject and predicate terms, but different in quality are termed as:

**Options :**

Contrary

1. ✘

Subaltern

2. ✘

Subalternation

3. ✘

Contradictory

4. ✓

Question Number : 39 Question Id : 54947028146 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Inductive reasoning presupposes \_\_\_\_\_

Options :

God created the world

1. ✘

Uniformity of nature

2. ✘

Law of the nature

3. ✘

Unity of nature.

4. ✓

Question Number : 40 Question Id : 54947028147 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Venn diagram is a kind of diagram to

Options :

1. ✘ Represent but not assess the validity of elementary inferences of syllogistic form.
2. ✔ Represent and assess the validity of elementary inferences of syllogistic form.
3. ✘ Represent and assess the truth of elementary inferences of syllogistic form.
4. ✘ Assess but not represent the truth of elementary inferences of syllogistic form.

Question Number : 41 Question Id : 54947028148 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Indian school of logic uses \_\_\_\_\_pramana to prove the existence of God.

Options :

1. ✘ Arthapatti
2. ✔ Anumana



Upamana

3. ✖

Pratyaksha

4. ✖

**Question Number : 42 Question Id : 54947028149 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

\_\_\_\_\_ Concept of Indian logic system denotes circumstantial implication.

**Options :**

Upamana

1. ✖

Anupalabdi

2. ✖

Pratyaksa

3. ✖

Arthapatti

4. ✔

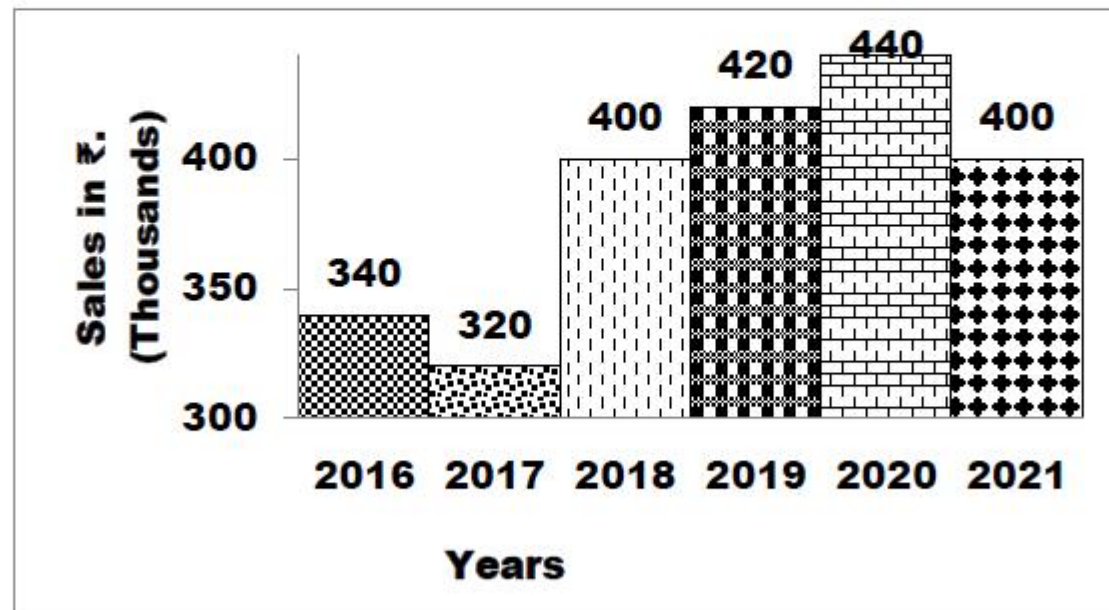
**Is Section Default? :**

null

Question Id : 54947028150 Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0  
Question Numbers : (43 to 45)

**Note:**

Study the following bar chart carefully and answer the questions 43 to 45. It gives sales (in thousands) of a product over years 2016 - 2021.



Sub questions

Question Number : 43 Question Id : 54947028151 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What are the average sales for the period 2018 to 2021?

Options :

1. ✘ 425

2. ✘ 430

3. ✘ 420

4. ✔ 415

Question Number : 44 Question Id : 54947028152 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The sales of 2017 are \_\_\_\_\_ times of sales 2018.

Options :

1. ✘ 1.25

2. ✔ 0.8

3. ✘ 8.25

8

4. ✖

**Question Number : 45 Question Id : 54947028153 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

In which year, the percentage of increase over the previous year is the least?

**Options :**

1. ✖ 2016

2. ✔ 2020

3. ✖ 2018

4. ✖ 2019

**Is Section Default? :** null

**Question Id : 54947028154 Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Question Numbers : (46 to 49)**

**Note:**

**Study the following table carefully and answer the questions from 46 to 49. It consists of data on marks obtained by various candidates in different subjects**

Students	Subjects (Max Marks)					
	Maths (150)	Chemistry (130)	Physics (120)	Geography (100)	History (100)	Comp Science (100)
Ayush	90	50	90	60	70	80
Aman	100	80	80	40	80	70
Sajal	90	60	70	70	90	70
Rohit	80	65	80	80	60	60
Muskan	80	65	85	95	50	90
Tanvi	70	75	65	85	40	60
Tarun	65	35	50	77	80	80

**Sub questions**

**Question Number : 46 Question Id : 54947028155 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Who among the following has obtained the highest aggregate marks?

**Options :**

1. ✘ Ayush

2. ✘ Aman

3. ✘ Sajal

4. ✔ Muskan

**Question Number : 47 Question Id : 54947028156 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

What is the average of marks obtained by all candidates in Physics?

**Options :**

1. ✘ 62.85

2. ✔ 74.28

3. ✘ 78.52

4. ✘ No answer

**Question Number : 48 Question Id : 54947028157 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

What is the average of marks obtained by Aman for all subjects?

Options :

1. ✘ 72

2. ✔ 75

3. ✘ 80

4. ✘ 85

**Question Number : 49 Question Id : 54947028158 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

What is the approximate percentage of marks obtained by Ayush?

Options :

1. ✘ 72

2. ✔ 73

3. ✘ 75

4. ✘ 78

Is Section Default? : null

Question Number : 50 Question Id : 54947028159 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following employs asynchronous communication?

- A) Video conferencing
- B) Email
- C) Forums
- D) Instant messaging

Choose the correct option.

Options :



1. ✘ A and C

2. ✘ B and D

3. ✔ B and C

4. ✘ A and D

**Question Number : 51 Question Id : 54947028160 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Read the following two statements:

A) ICT is considered a subset of IT.

B) The “right to use” a piece of software is termed as copyright.

Which of the above statements(s) is/are correct?

**Options :**

1. ✔ Neither (A) nor (B)

2. ✘ Both (A) and (B)

3. ✘ (B) only

4. ✘ (A) only

**Question Number : 52 Question Id : 54947028161 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the following can be taken the digital library for education?

**Options :**

1. ✘ Swayam

2. ✘ MOOC

3. ✘ Sakshat

4. ✔ NPTEL

**Question Number : 53 Question Id : 54947028162 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the following lists computer memory sequentially from highest to lowest speed?

**Options :**

1. ✘ Secondary storage; Main Memory (RAM); Cache Memory; CPU Registers
2. ✘ CPU Registers; Cache Memory; Secondary storage; Main Memory (RAM)
3. ✘ Cache Memory; CPU Registers; Main Memory (RAM); Secondary Storage
4. ✔ CPU Registers; Cache Memory; Main Memory (RAM); Secondary Storage

**Question Number : 54 Question Id : 54947028163 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Each computer connected to the internet should

**Options :**

1. ✘ Be an IBM PC
2. ✔ Have a unique IP address
3. ✘ Have a modern connection
4. ✘ Be internet compatible

**Question Number : 55 Question Id : 54947028164 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the following is exact format of Email address?

**Options :**

1. ✔ name@website.info
2. ✘ name@website@info
3. ✘ www.nameofebsite.com

name.website.com

4. ✖

**Question Number : 56 Question Id : 54947028165 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

\_\_\_\_\_ is the oldest soap opera telecasted in India.

**Options :**

*Kahani Ghar Ghar Ki*

1. ✖

*Buniyaad*

2. ✖

*Kyunki Saas Bhi Kabhi Bahu Thee*

3. ✖

*Hum Log*

4. ✔

**Question Number : 57 Question Id : 54947028166 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Indicate the name of the research station established for conducting research at Antarctica by Government of India

Options :

Yamunotri

1. ✘

UttariGangotri

2. ✘

DakshinGangotri

3. ✔

None of these.

4. ✘

Question Number : 58 Question Id : 54947028167 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following are priority areas related to the sustainable development Goals?

- i. No poverty
- ii. Peace, Justice and strong institutions
- iii. Zero hunger
- iv. Reducing urbanization

Choose the correct answer from the options given below.

Options :

(i) , (iii), (iv)

1. ✘

(ii), (iii), (iv)

2. ✘

(i), (ii), (iv)

3. ✘

(i), (ii), (iii)

4. ✔

Question Number : 59 Question Id : 54947028168 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The common feature between  $\text{NO}_2$ ,  $\text{SO}_2$ ,  $\text{CO}$  and  $\text{SPM}$  is \_\_\_\_\_

Options :

Are greenhouse gases

1. ✘

Are classified as secondary pollutants

2. ✘

Are classified as primary pollutants

3. ✔

Have equal role in causing acid rain

4. ✘

**Question Number : 60 Question Id : 54947028169 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**



Given below are an assertion and a reason:

**Assertion (A):**

Methaemoglobinaemia is a condition wherein blood is unable to carry and deliver enough oxygen to the body.

**Reason (R):**

Consumption of drinking water with high nitrate level may lead to Methaemoglobinaemia.

Choose the correct answer from the options given below:

Options :

1. ✘ Both (A) and (R) are true but (R) is not the correct explanation of (A).
2. ✔ Both (A) and (R) are true and (R) is the correct explanation of (A).
3. ✘ ( A) is true, but (R) is false
4. ✘ (A) is false, but (R) is true.

Which of the following gases has the highest global warming potential?

Options :

Carbon dioxide

1. ✘

Sulphur hexafluoride

2. ✔

Chlorofluorocarbon

3. ✘

Methane

4. ✘

Question Number : 62 Question Id : 54947028171 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the percentage occurrence of earthquakes at plate boundaries?

Options :

90

1. ✔

2. ✘ 50

3. ✘ 80

4. ✘ 75

**Question Number : 63 Question Id : 54947028172 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

In which year, India Government has announced the National Action plan on Climate Change?

**Options :**

1. ✘ 2005

2. ✘ 2009

3. ✔ 2008

4. ✘ 2012

Question Number : 64 Question Id : 54947028173 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Radhakrishnan Commission, opined that the aim of Higher Education should be

---

Options :

1. ✘ To inculcate values Peace and harmony.

2. ✘ To develop great personalities who can contribute to politics, administration, industry and commerce

3. ✘ To impart traditional education to students.

4. ✔ To inculcate values Peace and harmony, and also develop great personalities who can contribute to politics, administration, industry and commerce

Question Number : 65 Question Id : 54947028174 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Value education makes a student.

Options :

Successful businessman

1. ✘

Good teacher

2. ✘

Able manager

3. ✘

Good citizen.

4. ✔

**Question Number : 66 Question Id : 54947028175 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Among the appointees of the Governor, \_\_\_\_\_ can be removed by the President of India only?

**Options :**

Vice-Chancellor of a State University

1. ✘

Advocate-General

2. ✘

A member of the State Public Service Commission

3. ✓

Chief Minister of a State.

4. ✘

**Question Number : 67 Question Id : 54947028176 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Where and when was the Second Buddhist Council held?

**Options :**

Sri Lanka in the first century BCE

1. ✘

Vaishali in 383 BCE

2. ✓

Pataliputra in 250 BCE

3. ✘

Mandalay in 1871 CE

4. ✘

**Question Number : 68 Question Id : 54947028177 Display Question Number : Yes Is Question Mandatory : No Calculator : None**

**Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

In which of the following year, the Universities in the presidency towns were established in India?

**Options :**

1858

1. ✘

1857

2. ✔

1900

3. ✘

1909

4. ✘

**Question Number : 69 Question Id : 54947028178 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

According to National Educational Policy, 2020, the Gross Enrolment Ratio in higher education would increased to \_\_\_\_\_ percent by 2035.

**Options :**

40

1. ✘

2. ✓ 50

3. ✘ 60

4. ✘ 70

**Question Number : 70 Question Id : 54947028179 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

In which of the following states, 50<sup>th</sup> Central University was established?

**Options :**

1. ✘ Tamil Nadu

2. ✓ Telangana

3. ✘ Tripura

4. ✘ Andhra Pradesh.



## Marine Engineering

Section Id :	549470396
Section Number :	2
Mandatory or Optional :	Mandatory
Number of Questions :	70
Section Marks :	70
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Is Section Default? :	null

Question Number : 71 Question Id : 54947028180 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following method can we use to evaluate  $\int_0^5 y dx$ , with  $h = 1$ ?

Options :

1. ✓ Trapezoidal
2. ✘ Simpson's  $\frac{1}{3}$  rule
3. ✘ Simpson's  $\frac{3}{8}$  rule

## Weddle's rule

4. ✘

Question Number : 72 Question Id : 54947028181 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The Two-dimensional heat equation in steady state condition is \_\_\_\_\_

Options :

1. ✘ 
$$\frac{\partial^2 u}{\partial x^2} = C^2 \frac{\partial u}{\partial t}$$

2. ✘ 
$$\left( \frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} \right) C^2 = \frac{\partial^2 u}{\partial t^2}$$

3. ✘ 
$$\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} = C^2 \frac{\partial u}{\partial t}$$

4. ✔ 
$$\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} = 0$$

Question Number : 73 Question Id : 54947028182 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If  $A$  is a real and symmetric then the Eigen values of a \_\_\_\_\_

Options :

1. ✓ are always real
2. ✘ are always real and positive
3. ✘ are always real and non-negative
4. ✘ occur in complex conjugate pairs

Question Number : 74 Question Id : 54947028183 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The directional derivative of  $f = x^2 + y^2 + z^2$  at the point  $(1, 1, 1)$  in the direction of  $\bar{i} + \bar{k}$  is \_\_\_\_\_

Options :

1. ✘ 0
2. ✘  $\sqrt{2}$

3. ✓  $2\sqrt{2}$

4. ✗  $\frac{3}{\sqrt{2}}$

**Question Number : 75 Question Id : 54947028184 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The mode of the binomial distribution with mean 4 and variance 3 is \_\_\_\_

**Options :**

1. ✗ 1

2. ✗ 2

3. ✗ 3

4. ✓ 4

**Question Number : 76 Question Id : 54947028185 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The relation  $|3 - z| + |3 + z| = 5$  represents \_\_\_\_\_.

Options :

1. ✘ a circle
2. ✘ a parabola
3. ✔ an ellipse
4. ✘ a hyperbola

**Question Number : 77 Question Id : 54947028186 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The forces, which meet at one point, but their lines of action do not lie in a plane, are called

Options :

1. ✘ coplanar non-concurrent forces
2. ✔ non-coplanar concurrent forces

non-coplanar non-concurrent forces

3. ✘

intersecting forces

4. ✘

**Question Number : 78 Question Id : 54947028187 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

From a circular plate of diameter 6 cm is cut out a circle whose diameter is a radius of the plate. Find the c. g. of the remainder from the centre of circular plate

**Options :**

0.5 cm

1. ✔

1.0 cm

2. ✘

1.5 cm

3. ✘

2.5 cm

4. ✘

**Question Number : 79 Question Id : 54947028188 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The ratio of limiting friction and normal reaction is known as

Options :

1. ✓ coefficient of friction
2. ✘ angle of friction
3. ✘ angle of repose
4. ✘ sliding friction

Question Number : 80 Question Id : 54947028189 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A body moves, from rest with a constant acceleration of 5 m per sec. The distance covered in 5 sec is most nearly

Options :

1. ✘ 38 m
2. ✓ 62.5 m
3. ✘ 96 m

4. ✘ 124 m

Question Number : 81 Question Id : 54947028190 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Torsional rigidity of a solid circular shaft of diameter 'd' is proportional to

Options :

1. ✘ d

2. ✘  $d^2$

3. ✘  $1/d^2$

4. ✔  $d^4$

Question Number : 82 Question Id : 54947028191 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If the load at free end on a cantilever is increased so as to cause rupture, same will occur

Options :



1. ✘ below the load
2. ✔ at fixed end
3. ✘ between fixed end and centre
4. ✘ at centre

**Question Number : 83 Question Id : 54947028192 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The slope and deflection at a point in a loaded cantilever or beam carrying several loads can be found by the

**Options :**

1. ✘ principle of least work
2. ✘ moment area method
3. ✘ double integration method

4. ✓ Macaulay's method

Question Number : 84 Question Id : 54947028193 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Deflection in a beam is maximum where the slope is

Options :

1. ✗ minimum

2. ✗ maximum

3. ✓ zero

4. ✗ changes sign

Question Number : 85 Question Id : 54947028194 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The deflection of the centre of a simply supported beam of length  $l$  carrying a uniformly distributed load  $w$  kg/m will be

Options :

1. ✘  $\frac{wl^4}{8EI}$

2. ✘  $\frac{5wl^3}{384 EI}$

3. ✘  $\frac{5 wl^4}{8 EI}$

4. ✔  $\frac{5 wl^4}{384 EI}$

Question Number : 86 Question Id : 54947028195 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A box-shaped vessel 105m long, 30m beam and 20m deep, is floating upright in sea water. If the displacement is 19500 tonnes, find the volume of reserve buoyancy.

Options :

1. ✔ 43976 m<sup>3</sup>

2. ✘ 43500 m<sup>3</sup>

3. ✘ 63000 m<sup>3</sup>

4. ✘ 61463 m<sup>3</sup>

**Question Number : 87 Question Id : 54947028196 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

What is responsible for generation of sea waves?

**Options :**

1. ✘ Depth of water

2. ✘ Salinity of water

3. ✔ Wind

4. ✘ Thermal gradient of the sea

**Question Number : 88 Question Id : 54947028197 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Dead weight tonnage of a ship

i) Varies with latitude and season

ii) Is more than displacement tonnage

iii) Is the difference between displacement load and displacement light

Of these statements

Options :

1. ✘ i) and ii) are correct

2. ✘ ii) and iii) are correct

3. ✔ i) and iii) are correct

4. ✘ Only iii) is correct

Question Number : 89 Question Id : 54947028198 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following are repair docks?

Options :

1. ✘ marine railways, dry docks, floating docks, wet docks

2. ✘ dry docks, wet docks, floating docks, lift docks
3. ✔ wet docks, floating docks, lift docks, marine railways
4. ✘ wet docks, lift docks, marine railways, dry docks

**Question Number : 90 Question Id : 54947028199 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the following conditions of loading imposes the greatest load on the foundation in case of dry docks?

**Options :**

1. ✘ When the dock is empty
2. ✘ When the dock is empty with the ship of maximum tonnage
3. ✔ When the dock is full of water
4. ✘ When the dock is dry and is under construction

Question Number : 91 Question Id : 54947028200 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The Plimsoll Mark on a vessel is used to determine its

Options :

1. ✓ freeboard.
2. ✗ centre line.
3. ✗ trim.
4. ✗ heel.

Question Number : 92 Question Id : 54947028201 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The aft draft marks of a vessel with a raked keel are measured from:

Options :

1. ✗ under the keel at the forward tangent point.
2. ✓ the plan baseline.

3. ✘ under the keel amidships.

4. ✘ the keel at the LCB.

**Question Number : 93 Question Id : 54947028202 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The intact buoyancy of a vessel describes:

Options :

1. ✘ the volume of spaces above the waterline.

2. ✘ a space that can flood without causing a ship to sink.

3. ✘ the buoyant volume on heel.

4. ✔ the volume of spaces below the waterline.

**Question Number : 94 Question Id : 54947028203 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Metacentric height is a measure of a vessel's:

Options :



1. ✘ minimum stability.
2. ✘ maximum stability.
3. ✔ initial stability.
4. ✘ terminal stability.

**Question Number : 95 Question Id : 54947028204 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The Medium Strength Steels with yield strength range from

**Options :**

1. ✘ 260-350MPa
2. ✔ 280-360MPa
3. ✘ 300-360MPa
4. ✘ 250-360MPa

Question Number : 96 Question Id : 54947028205 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which method is based on S-N curve obtained from experiments?

Options :

1. ✘ Fracture mechanics method
2. ✔ Cumulative Damage method
3. ✘ Both 1 and 2
4. ✘ Fatigue mechanics method

Question Number : 97 Question Id : 54947028206 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The stress concentration factor can be defined

Options :

1. ✔  $SCF = \frac{\text{Hot spot stress}}{\text{Nominal stress}}$

2. ✘ 
$$SCF = \frac{\text{Nominal stress}}{\text{Hot spot stress}}$$

3. ✘ 
$$SCF = \frac{\text{Stress range}}{\text{amplitude}}$$

4. ✘ 
$$SCF = \frac{\text{amplitude}}{\text{stress range}}$$

Question Number : 98 Question Id : 54947028207 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Fatigue assessment can be done through

Options :

1. ✘ Fracture mechanics method

2. ✘ Fatigue damage method

3. ✘ Option 1 only

4. ✔ Both Fracture mechanics method and Fatigue damage method

Question Number : 99 Question Id : 54947028208 Display Question Number : Yes Is Question Mandatory : No Calculator : None

**Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Chord Slenderness is defined as the

**Options :**

1. ✓ Ratio of Diameter of the Cord to Chord Wall Thickness
2. ✘ Ratio of Radius of Cord to the Chord Wall Thickness
3. ✘ Ratio of Diameter of Brace to Chord Wall Thickness
4. ✘ Diameter of Brace equal to Chord Wall Thickness

**Question Number : 100 Question Id : 54947028209 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The diameter of the chord close to the diameter of the brace can lead to the

**Options :**

1. ✓ Difficulties in welding
2. ✘ Ease in welding

3. ✘ Stiffened joint

4. ✘ Ease in brazing

**Question Number : 101 Question Id : 54947028210 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Deterministic fatigue assessment is done using the

**Options :**

1. ✔ Wave height and stress range

2. ✘ Transfer function

3. ✘ Wave height

4. ✘ Stress range

**Question Number : 102 Question Id : 54947028211 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

When do the dynamic response come into play?

Options :

1. ✘ When the natural period of structure is more than 4 sec
2. ✔ When the natural period of structure is more than 3 sec
3. ✘ When the natural period of structure is less than 5 sec
4. ✘ When the natural period of structure is more than 5 sec

Question Number : 103 Question Id : 54947028212 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which response equation is used for dynamic fatigue analysis?

Options :

1. ✘  $m\ddot{x} + c\dot{x} + kx = 0$
2. ✘  $kx = F(\omega)$
3. ✔  $m\ddot{x} + c\dot{x} + kx = F(t)$

$$m\ddot{x} + kx = F(t)$$

4. ✘

**Question Number : 104 Question Id : 54947028213 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

With the depletion of onshore and offshore shallow water reserves, the \_\_\_\_\_ of oil in deep waters has become a challenge to offshore industry.

**Options :**

Production and Installation

1. ✘

Exploration and production

2. ✔

Installation and Risk management

3. ✘

Exploration

4. ✘

**Question Number : 105 Question Id : 54947028214 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the following materials will undergo Corrosion?

Options :

Metals only

1. ✘

Metals and Non-metals

2. ✘

Metals, Non-metals, Ceramics and Plastics

3. ✘

Metals, Non-metals, Ceramics, Plastics and Rubbers

4. ✔

Question Number : 106 Question Id : 54947028215 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following subjects are important in understanding and controlling corrosion?

Options :

Thermodynamics

1. ✘

Electrochemistry

2. ✘



Both Thermodynamics and Electrochemistry

3. ✓

Material Characterization

4. ✘

**Question Number : 107 Question Id : 54947028216 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the following are necessary in the process of corrosion?

**Options :**

Anode

1. ✘

Cathode

2. ✘

Electrolyte

3. ✘

Anode, Cathode and Electrolyte

4. ✓

Question Number : 108 Question Id : 54947028217 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The chemical formula of rust is \_\_\_\_\_

Options :

1. ✘ FeO

2. ✔ Fe<sub>2</sub>O<sub>3</sub>

3. ✘ Fe<sub>3</sub>O<sub>4</sub>

4. ✘ Fe(OH)<sub>2</sub>

Question Number : 109 Question Id : 54947028218 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is Intergranular corrosion?

Options :

1. ✘ Localized attack at the grain boundaries

2. ✘ Localized attack at the grain faces

3. ✘ Uniform attack on grains

4. ✔ Localized attack at and adjacent to the grain boundaries

**Question Number : 110 Question Id : 54947028219 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the following type of directional patterns usually exhibit by erosion-corrosion?

**Options :**

1. ✘ Grooves

2. ✘ Waves

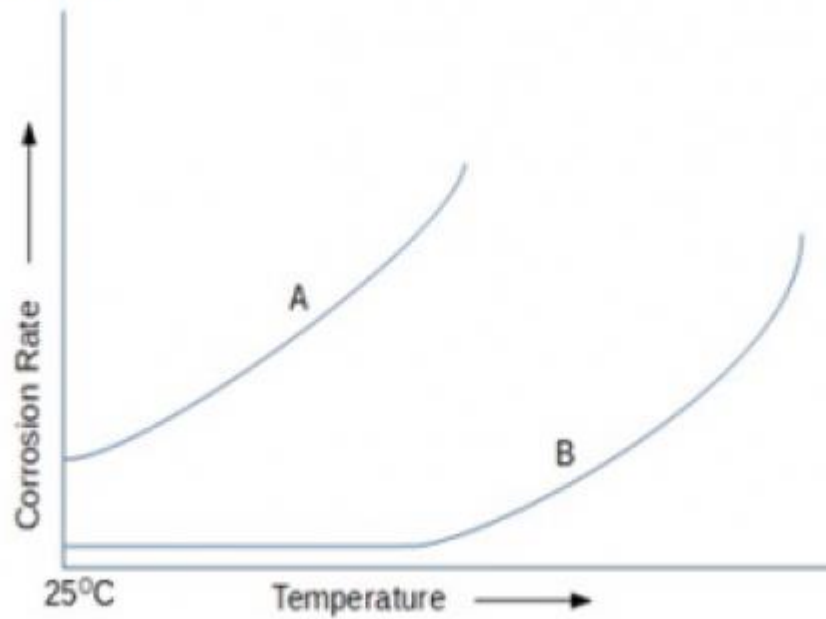
3. ✘ Rounded holes

## Grooves, waves and rounded holes

4. ✓

Question Number : 111 Question Id : 54947028220 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What is the corrosion rate behaviour of curve A with the increase in temperature, described in the given figure?



Options :

Constant

1. ✘

2. ✓ Exponential increase

3. ✘ Exponential decreases

4. ✘ Slightly decreases

**Question Number : 112 Question Id : 54947028221 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the following type of corrosion is localized in nature?

**Options :**

1. ✓ Crevice corrosion

2. ✘ Galvanic corrosion

3. ✘ Uniform corrosion

## Inter-granular corrosion

4. ✘

Question Number : 113 Question Id : 54947028222 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following combination results in crevice corrosion?

Options :

1. ✔ Metal and absorbent gaskets
2. ✘ Continuous weld metals
3. ✘ Metal and non-absorbent gaskets
4. ✘ Single metal piece

Question Number : 114 Question Id : 54947028223 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Heat flow into a system is \_\_\_\_\_ and heat flow out of the system is \_\_\_\_\_

Options :

1. ✘ positive, positive
2. ✘ negative, negative
3. ✘ negative, positive
4. ✔ positive, negative

Question Number : 115 Question Id : 54947028224 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

For incompressible flow, diverging section acts as a diffuser in the downstream for

Options :

1. ✘ Sonic state only
2. ✔ Both subsonic and supersonic flows

Supersonic flows only

3. ✘

Subsonic flows only

4. ✘

**Question Number : 116 Question Id : 54947028225 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

. The volume flow rate at the outlet of an air compressor is \_\_\_\_\_ that at the inlet, even though the mass flow rate of air through the compressor is constant.

**Options :**

Much less than

1. ✔

Much greater than

2. ✘

Equal to

3. ✘

Greater than equal to

4. ✘



**Question Number : 117 Question Id : 54947028226 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

110J of heat is added to a gaseous system, whose internal energy is 40J. Then the amount of external work done is

**Options :**

1. ✘ 150J

2. ✔ 70J

3. ✘ 110J

4. ✘ 40J

**Question Number : 118 Question Id : 54947028227 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

A steam condenser takes in wet steam at 8 kg/s and dryness fraction 0.82. This is condensed into saturated water at outlet. The working pressure is 0.05 bar. Calculate the heat transfer rate.

Options :

–15896 kW

1. ✓

–11285 kW

2. ✗

–13452 kW

3. ✗

–10345 kW

4. ✗

Question Number : 119 Question Id : 54947028228 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If Carnot cycle has maximum possible thermal efficiency, then why don't the steam turbine power plants run on Carnot cycle?

Options :

Because boiler can't be maintained at constant pressure in Carnot cycle

1. ✘

Since work consumed by compressor is approximately equal to work produced by turbine

2. ✔

As mean temperature of heat addition is quite low in case of Carnot cycle

3. ✘

Because the process of heat addition is at constant temperature

4. ✘

**Question Number : 120 Question Id : 54947028229 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Gas turbines work on which of the following cycle?

**Options :**

Diesel cycle

1. ✘

Brayton cycle

2. ✔

3. ✖ Rankine cycle

4. ✖ Otto Cycle

**Question Number : 121 Question Id : 54947028230 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which is the desirable physical property of refrigerant?

Options :

1. ✖ Toxic

2. ✖ Explosive

3. ✔ Low boiling point

4. ✖ High freezing point

Question Number : 122 Question Id : 54947028231 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If a certain mass of moist air in an air tight vessel is heated to a higher temperature, then

Options :

1. ✘ Specific humidity of the air increases
2. ✘ Specific humidity of the air decreases
3. ✘ Relative humidity of the air increases
4. ✔ Relative humidity of the air decreases

Question Number : 123 Question Id : 54947028232 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In a diesel engine, excessive cylinder liner wear will cause \_\_\_\_\_.

- I. increased blowby
- II. wear between the piston ring and groove

Options :

1. ✘ I only is correct

2. ✘ II only is correct

3. ✔ both I and II are correct

4. ✘ neither I nor II are correct

**Question Number : 124 Question Id : 54947028233 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the listed cylinder liner surface conditions indicates proper lubrication?

**Options :**

1. ✘ Dull black appearance.

2. ✔ Bright appearance.

3. ✘ Thin layer of lacquer.

4. ✘ Thick oily film.

**Question Number : 125 Question Id : 54947028234 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

What preventive maintenance should be done frequently to diesel engine starting air receivers?

**Options :**

1. ✔ Drain the accumulated moisture.

2. ✘ Test the relief valves.

3. ✘ Watch the temperature to prevent fluctuations in pressure.

4. ✘ Clean the interior to remove oil and foreign matter.



Question Number : 126 Question Id : 54947028235 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which of the following statements represents the reason for turning of a diesel engine with the cylinder indicator cocks open prior to starting?

Options :

To test the starting system.

1. ✘

To remove air bubbles from the jacket water.

2. ✘

To ensure that the lube oil system delivers pressure.

3. ✘

To ensure water etc. is not present in the cylinders.

4. ✔

Question Number : 127 Question Id : 54947028236 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The reversing mechanism on a direct reversing large low-speed main propulsion diesel engine, operated by means of oil pressure, can serve to \_\_\_\_\_.

Options :



1. ✘ bring the respective cams under the fuel pump roller
2. ✘ rotate or displace the camshaft according to engine design
3. ✘ bring the respective cams under the air distributor pilot valves
4. ✔ All of these

**Question Number : 128 Question Id : 54947028237 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Scavenging in a four-stroke diesel engine occurs during the \_\_\_\_\_.

**Options :**

1. ✔ last part of the exhaust stroke, and the first part of the intake stroke
2. ✘ last part of the intake stroke only
3. ✘ early part of the injection stroke only

early part of the power stroke

4. ✘

**Question Number : 129 Question Id : 54947028238 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the following conditions can cause above normal air temperature to develop in the intake manifold of a four-stroke, turbocharged, diesel engine?

**Options :**

Clogged air intake filters

1. ✘

Piston blow-by

2. ✘

A defective after cooler

3. ✔

Faulty exhaust valves

4. ✘

**Question Number : 130 Question Id : 54947028239 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

On a large diesel engine installation, crankshaft axial alignment is maintained by the \_\_\_\_\_.

Options :

1. ✘ piston rod guides
2. ✔ engine thrust bearing
3. ✘ crosshead bearing
4. ✘ main shaft flexible coupling

Question Number : 131 Question Id : 54947028240 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which instrument is used to take crankshaft deflection readings?

Options :

1. ✘ Feeler gauge

2. ✘ Outside micrometer

3. ✔ Dial gauge

4. ✘ Gauge block

**Question Number : 132 Question Id : 54947028241 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

The function of the hydraulic telemotor transmitter used in an electro-hydraulic steering gear system is to \_\_\_\_\_.

**Options :**

1. ✘ transmit the rudder angle to the bridge indicator

2. ✘ prevent the control linkage from striking the stops when hard over

3. ✘ automatically purge all entrained air from the system

4. ✔ send hydraulic signals to the receiving unit

Question Number : 133 Question Id : 54947028242 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

As the designated rudder angle is being achieved, as a result of the original command input, the steering gear follow-up mechanism is \_\_\_\_\_.

Options :

1. ✘ in motion, providing a null input
2. ✘ not in motion, thus providing a null input
3. ✘ in motion, providing an input to place the main pump on maximum stroke
4. ✔ in motion, providing an input to place the main pump at null stroke

Question Number : 134 Question Id : 54947028243 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Water lubricated type stern tube bearings are made of \_\_\_\_\_.

Options :

1. ✘ Brass
2. ✘ Copper
3. ✘ Rubber
4. ✔ Tufnol

**Question Number : 135 Question Id : 54947028244 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Air trapped in the hydraulic fluid of a steering system would be indicated by \_\_\_\_\_.

**Options :**

1. ✘ an improper rudder response
2. ✘ hammering noises in the equipment or transmission lines
3. ✘ popping or sputtering noises

4. ✓ All of these

Question Number : 136 Question Id : 54947028245 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Most hydraulic steering gears are fitted with relief valves which \_\_\_\_\_.

Options :

1. ✘ function when the rudder is amidships
2. ✘ relieve excess whip pressure from the hydraulic oil system
3. ✓ protect the piping assembly from external rudder shock
4. ✘ relieve excessive telemotor pressure

Question Number : 137 Question Id : 54947028246 Display Question Number : Yes Is Question Mandatory : No Calculator : None  
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0



The rudder stock of a balanced rudder is located at such a position such that \_\_\_\_\_ of rudder area is forward of the stock and the remaining is aft of it.

Options :

1. ✓ 40%

2. ✗ 30%

3. ✗ 60%

4. ✗ 20%

Question Number : 138 Question Id : 54947028247 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Which combination of the main shaft segments listed below, that are located farthest from the main engine, are connected by the inboard stern tube shaft coupling?

Options :

1. ✗ Line shaft and thrust shaft



2. ✓ Line shaft and stern-tube shaft

3. ✘ Thrust shaft and stern-tube shaft

4. ✘ Stern-tube shaft and tail shaft

**Question Number : 139 Question Id : 54947028248 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Which of the following takes the weight of the rudder?

**Options :**

1. ✘ The steering gear

2. ✘ The rudder stock

3. ✓ The rudder carrier bearing.

The locking pintle.

4. ✘

**Question Number : 140 Question Id : 54947028249 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

Stern tube bearings are lubricated by

**Options :**

Water

1. ✘

Oil

2. ✘

Both A and B

3. ✔

Neither A nor B

4. ✘