Andhra Pradesh State Council of Higher Education

Notations:

Change Theme:

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Show Reports:

1.Options shown in green color and with ✓ icon are correct.

2.Options shown in red color and with * icon are incorrect.

	M / II
Question Paper Name :	Metallurgical Engineering 3rd May 2024
	Shift 2
Duration:	120
Total Marks :	140
Display Marks:	No
Share Answer Key With Delivery Engine :	Yes
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required?:	No
Eraser Required?:NoScratch Pad Required?:NoRough Sketch/Notepad Required?:No	No
	No
	No
Protractor Required?:	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console?	Yes
Change Font Color :	No
Change Background Color :	No

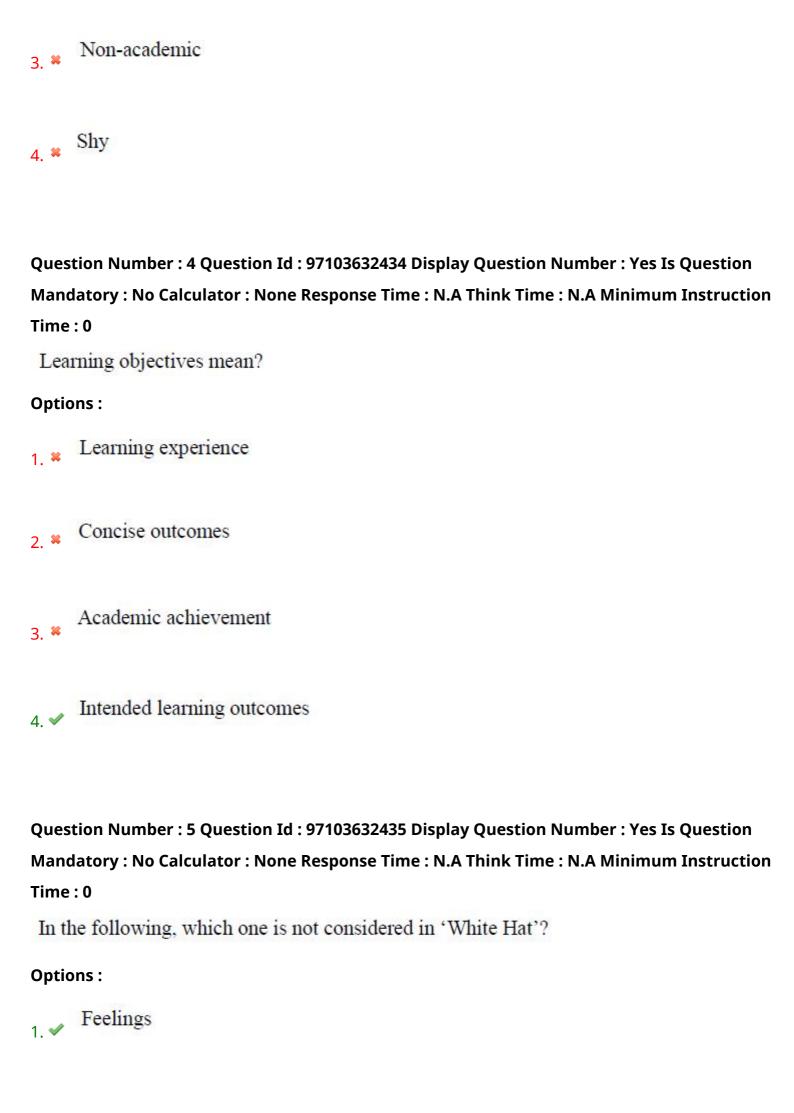
No

No

No

Show Progress Bar: No Is this Group for Examiner?: No **Examiner permission: Cant View Show Progress Bar?:** Nο **Research Methodology** Section Id: 971036461 **Section Number: Mandatory or Optional:** Mandatory **Number of Questions:** 66 **Section Marks:** 70 **Enable Mark as Answered Mark for Review and** Yes **Clear Response: Maximum Instruction Time:** 0 Is Section Default?: null Question Number: 1 Question Id: 97103632431 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 How does mass media influence society? **Options:** 1. * Promotes critical thinking 2. Shapes public opinion 3. * Limits access to information 4. * Encourages isolation

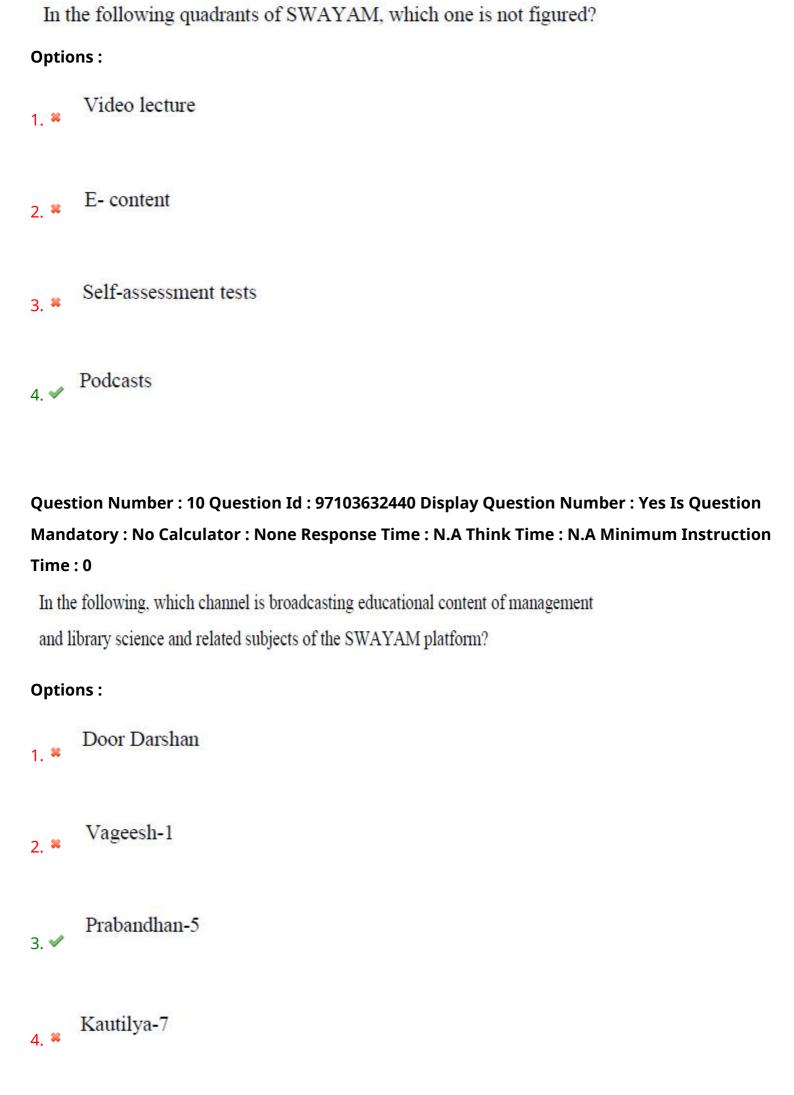
Question Number : 2 Question Id : 97103632432 Display Question Number : Yes Is Question
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0
What is an example of an online teaching platform?
Options:
1. * Tutorial class
2. ** Traditional classroom
Laboratory session
4. Swayamprabha
Question Number : 3 Question Id : 97103632433 Display Question Number : Yes Is Question
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0
Some students who do not speak often in class and who typically develop
ideas and questions in their minds before speaking arestudents.
Options:
1. ✓ Reflective
2. * Active



2. * Data gathering
Facts 3. **
Information needs
Question Number : 6 Question Id : 97103632436 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
The modern pedagogical standards are not related to
Options:
1. * Learners- focussed process
Rigid teaching plan 2. ✓
3. * Individual Students need
4. * Learner diversity
Question Number : 7 Question Id : 97103632437 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0 How many domains of learning are identified by Paniamin Placem?
How many domains of learning are identified by Benjamin Bloom?
Options:

1. * 1	I WO
2. 🗸	Three
3. *	Four
4. *	Five
Manda Time : (on Number : 8 Question Id : 97103632438 Display Question Number : Yes Is Question tory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Or Bloom's taxonomy, the objective of remembering refers to
Option 1. **	Psychomotor
2. *	Affective
3. 🗸	Cognitive
4. *	Social
	on Number : 9 Question Id : 97103632439 Display Question Number : Yes Is Question story : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0



Question Number: 11 Question Id: 97103632441 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

How many quadrants are there in MOOCs?

Options:

- Two
- Three
- 3. V Four
- 4. Five

Question Number: 12 Question Id: 97103632442 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

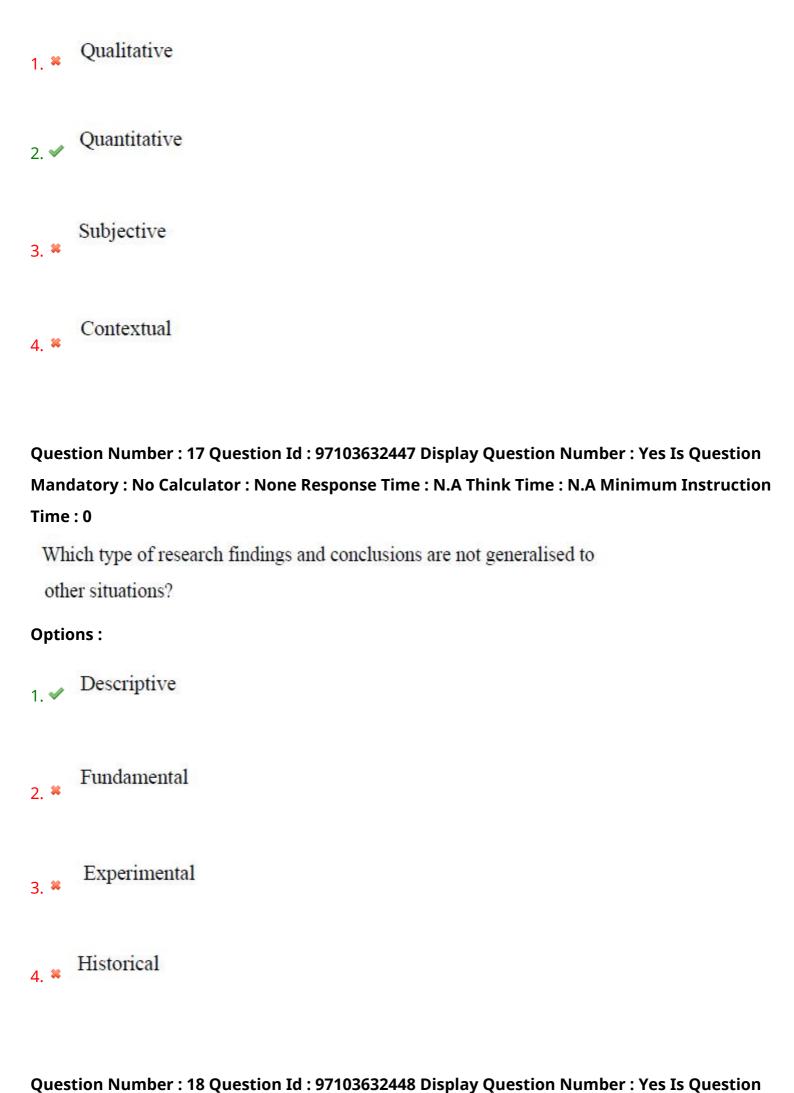
What is the best advantage of a Choice Based Credit System of education?

Options:

- Student-centric
- Flexibility for teachers

3. * Co	entent specific
4. ¥ Tea	cher-centric
	Number : 13 Question Id : 97103632443 Display Question Number : Yes Is Question ry : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
The comp	outer-based testing learning domain covers behaviour.
Options :	
1. * Con	native
2. * Effe	ective
3. ✔ Cog	gnitive
4. ¥ Psyc	chomotor
Mandator	Number : 14 Question Id : 97103632444 Display Question Number : Yes Is Question ry : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0	
	ch activity pursuing based on observable facts is known as
Options :	
1. * Eth	no methodology

2. ** Constructionist
3. ✔ Positivism
4. * Manipulative
Question Number: 15 Question Id: 97103632445 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 purpose of using a Venn diagram in logic?
Options:
1. * To confuse the audience
2. ✓ To visualize logical relationships
3. * To simplify complex arguments
4. * To present factual evidence
Question Number : 16 Question Id : 97103632446 Display Question Number : Yes Is Question
Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction
Time: 0
Experimental research is based on methodology.
Options :



Time: 0
In the following approaches, which one is not quantitative research?
Options:
1. * Correlation
2. Ground theory
Experimental 3. *
Deductive 4. *
Question Number : 19 Question Id : 97103632449 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 The National Literacy Mission was started in the year
Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 The National Literacy Mission was started in the year Options:
Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 The National Literacy Mission was started in the year Options: 1. ** 1991

Question Number: 20 Question Id: 97103632450 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 best remedy for the student's problems related to learning?
Options:
Suggestion for private tuition
2. Suggestion for hard work
Diagnostic teaching 3. ✓
Suggestion to go to the library
Is Section Default?: null
Question Id: 97103632451 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: (21 to 25)

Read the Passage and answer the following questions:

If you wish to be a writer, you must learn to develop your own point of view. All good writers make us see things in a different light. You may be writing about the same thing as your classmates, but your presentation must reflect your personality and individuality. There are so many interesting subjects you can write about in different forms but here we will try to attempt writing short stories. There is a good market for the following types: humorous stories, adventurous stories, domestic stories, and mysterious stories and stories related to animals and strange experiences. Don't worry if your story turns out to be short-some of the stories are quite short. Be very careful about the climax or end of the story. It must be what the reader fears, desires, expect or best of all doesn't expect. So, get down to it. Think of a plot-make points on how the story will progress and pen it down.

Sub questions

Question Number : 21 Question Id : 97103632452 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

The most important thing about being a writer is that

Options:

- You must have a pen and paper
- You must have a degree in writing
- You must have a painful heart
- You must learn to develop your own point of view

Question Number : 22 Question Id : 97103632453 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

The n	narrator advises the reader to write in order to
Optio	ns:
1. *	Earn a livelihood
2. 🗸	Encourage him to become a writer
3. **	Make him famous among his people
4. *	Show his intelligence to others
Question Number: 23 Question Id: 97103632454 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 A successful writer's presentation must reflect	
Optio	ns:
1. 🗸	His personality and individuality
2. *	His hand writing
3. *	His showy nature
4. * 1	His superiority to others

Time: 0

Question Number : 24 Question Id : 97103632455 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
The phrase 'pen it down' here means
Options :
1. * To get down
2. ✓ To write
To throw the pen
To throw it down 4. **
Question Number : 25 Question Id : 97103632456 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
According to the passage, what is essential for aspiring writers to learn?
Options :
Developing their own point of view 1.
Writing about the same topics as classmates
Avoiding short stories 3. **
Following popular writing trends

Is Sec	Section Default?: null	
	estion Number : 26 Question Id : 97103632457 Display andatory : No Calculator : None Response Time : N.A T ne : 0	
The	ne fundamental function of SPSS software is	
Optio	tions :	
1. *	To analyse quantitative data	
2. 🗱	Management reference tool	
3. 🗸	Statistical Package for analysing quantitative da	ta
4. 🗱	Useful for literature review	
	estion Number : 27 Question Id : 97103632458 Display andatory : No Calculator : None Response Time : N.A T	
Time	·	mink time . N.A Minimum Instruction
Plag	agiarism in research refers to	
Optio	tions :	
1. *	Using previous data	
2. **	Quoting findings of others	
3. 🗸	Unscrupulously copying others works	

Incorporating earlier findings of the research.

Question Number: 28 Question Id: 97103632459 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

In the following, which one is considered a barrier of effective communication?

Options:

- Differences of cultural aspects
- 2. * Active listening
- Clarity of message
- Perfect information

Question Number : 29 Question Id : 97103632460 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

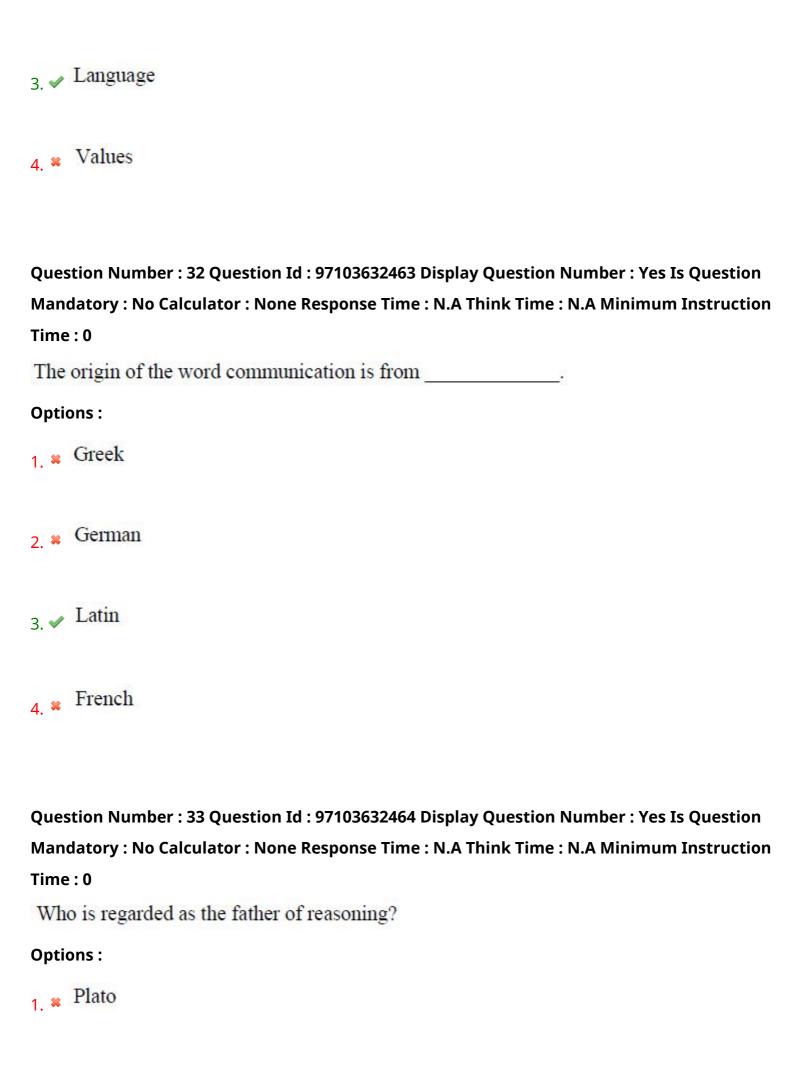
Time: 0

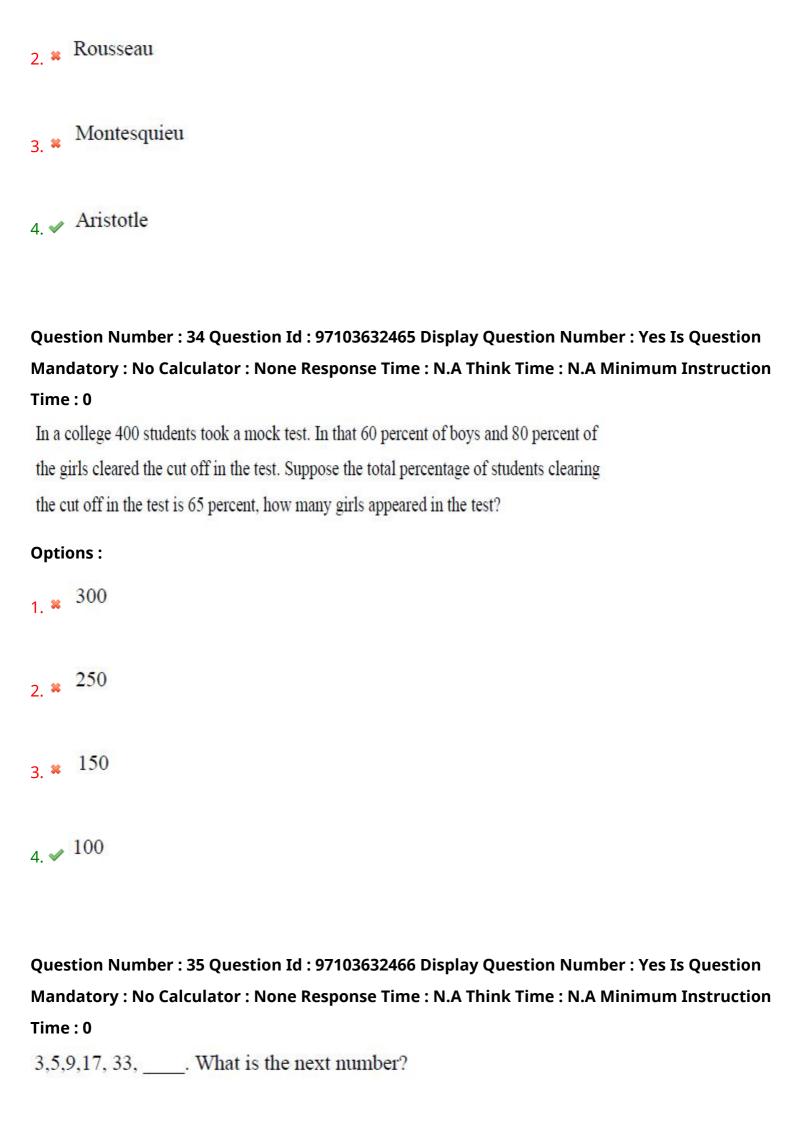
In the following communication, which one is considered as interpersonal?

Options:

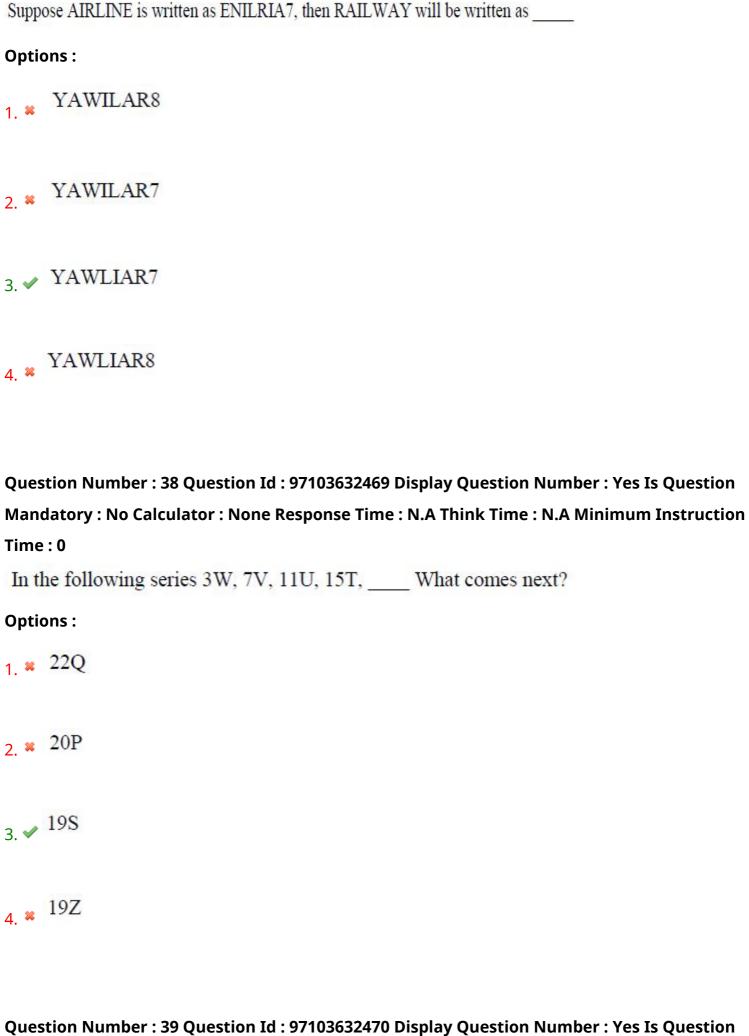
- 1 Metaphorical
- 2. * Philosophical

3. * It is not participating in friendly It is both focused and unfocussed. Question Number: 30 Question Id: 97103632461 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which one of the following is not considered as verbal communication? **Options:** 1 * Instruction 2. Wordless messages 3. * Practicals 4. * Online classes Question Number: 31 Question Id: 97103632462 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 In the following, which one is not considered a subjective aspect of culture? **Options:** 1. Belief 2. * Attitude





Options:
1. * 45
2. * 35
3. 4 65
4. * 75
Question Number : 36 Question Id : 97103632467 Display Question Number : Yes Is Question
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0
How many types of reasoning are there?
Options:
1. * Four
2. ✓ Two
3. * Three
4. * Five
Question Number : 37 Question Id : 97103632468 Display Question Number : Yes Is Question
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time: 0



Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0 What is the sum of (71/105) and (71/420)? Options: 1. * 83/84 2. * 73/84 3. * 79/84 4. 71/84 Question Number: 40 Question Id: 97103632471 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 A car can finish a certain journey in 10 hrs at a speed of 48 kmph. To cover the same distance in 8 hours, the speed of the car must be increased by **Options:** 12 kmph 2. * 15 kmph 3. ***** 6 kmph

4. ***** 7.5 kmph

Question Number : 41 Question Id : 97103632472 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

Suppose the price of the commodity is increased by 50 percent and by what fraction must its consumption be reduced to keep the same expenditure consumption?

Options:

1. * 1/2

2. 🗸 1/3

3. * 1/4

4. * 2/3

Question Number: 42 Question Id: 97103632473 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

The selling price of a bicycle is Rs. 2,850 and the shopkeeper gains 14% profit. Suppose the profit is reduced to 8%, then the selling price will be Rs. _____.

Options:

2,600

2,700

- 3. * 2,800
- 4. * 3,000

Question Number: 43 Question Id: 97103632474 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

Find out the simple interest, when principal is Rs. 3,000 at the rate of 5% per annum for 2 years?

Options:

- 1. 300
- 2. * 305
- 3. * 303
- 4. * 307

Question Number : 44 Question Id : 97103632475 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

A channel marked at a price Rs. 1,600 is available at a discount of 45%. What is the discount given?

Options:

1. * 740

- 2. * 800
- 3. **✓** 720
- 4. * 760

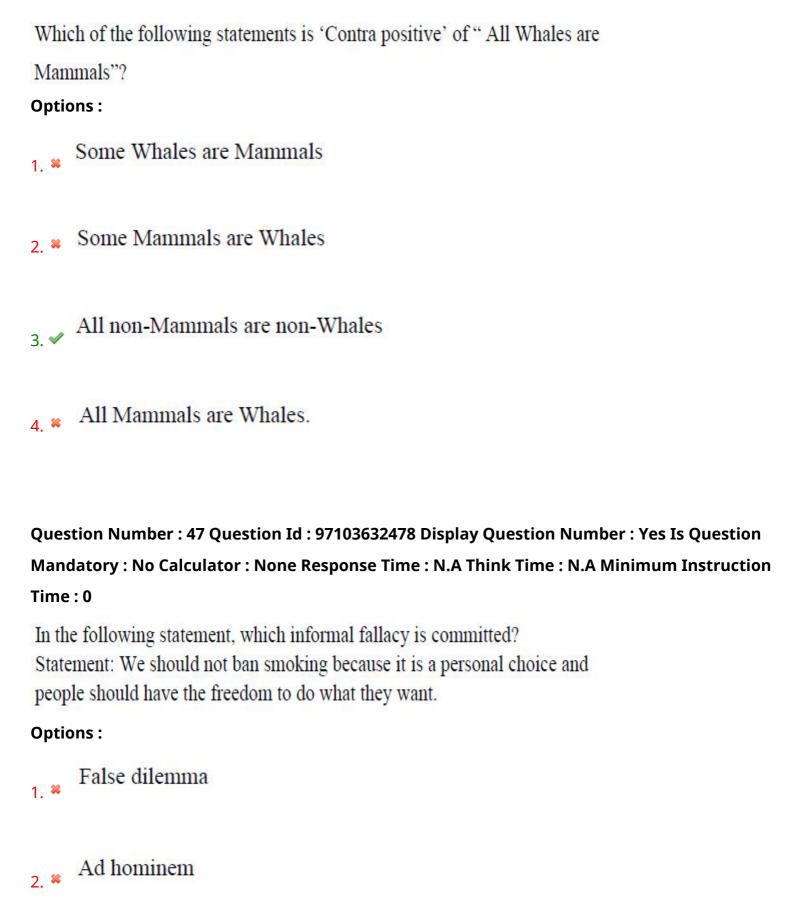
Question Number: 45 Question Id: 97103632476 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

The average marks of 25 students is 18. The average marks of first 12 students is 14 and the average marks of last 12 students is 17. What is the 13th student result?

Options:

- 1. * 69
- 2. * 74
- 3. **✓** 78
- 4. * 75

Question Number : 46 Question Id : 97103632477 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0



Appeal to emotion

4. * Equivocation

Question Number: 48 Question Id: 97103632479 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 A word or phrase that is understood by every person in a particular culture is known as its
Options:
1. ** Denotation
2. * Connotation
3. Sense
Reference 4. *
Question Number : 49 Question Id : 97103632480 Display Question Number : Yes Is Question
Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction
Time: 0
In the following types of reasoning, in the conclusion the word 'likely' is used.
Options:
1. Inductive
2. * Deductive

3. * Analogical
4. * Syllogistic
Question Number : 50 Question Id : 97103632481 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Insect: Disease; War:?
Options :
1. * Arsenal
2. * Defeat
Destruction 3.
4. * Army
Question Number : 51 Question Id : 97103632482 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 meaning of 'pratyaksh'?
Options :
Inference

2. Perception
3. * Implied
Transcendental 4. **
Question Number : 52 Question Id : 97103632483 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
In Indian logic, what is the meaning of 'Anumana"?
Options:
1. * Determination
2. * Credibility
Inference 3. ✓
4. * Implication
Question Number : 53 Question Id : 97103632484 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
In the HTML, M refers to
Options:

1. *	Machine	
2. 🗸	Markup	
3. 🗱	Margin	
4. 🕊	Micro	
Question Number : 54 Question Id : 97103632485 Display Question Number : Yes Is Question		
Mand	atory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction	
Time :	0	
The	receiving emails appear in	
Optio	ns:	
1. 🛎	Spam	
2. 🗶	Trash	
3. 🗸	Inbox	
4. 🗱	Archive	
Ouest	ion Number : 55 Question Id : 97103632486 Display Question Number : Yes Is Question	

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Time : 0

Internet standard protocol is			
Options :			
FTP			
2. * WWW			
3. ✓ TCP/IP			
4. * UDP			
Question Number : 56 Question Id : 97103632487 Display Question Number : Yes Is Question			
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction			
Γime: 0			
Γime: 0			
Time: 0 In the following video-conferencing platforms, which one is popular?			
Time: 0 In the following video-conferencing platforms, which one is popular? Options:			
In the following video-conferencing platforms, which one is popular? Options: Gmail			
In the following video-conferencing platforms, which one is popular? Options: Gmail Spotify			

Question Number : 57 Question Id : 97103632488 Display Question Number : Yes Is Question

Time: 0
The purpose of the intranet is
Options :
1. * To facilitate online shopping
Z. * To make video calls
3. * To provide unrestricted Access to information on the internet.
To allow communication within a specific company
Question Number: 58 Question Id: 97103632489 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 To improve Quality of research, the government has initiated a digital program and it is called
Options :
1. * National Knowledge Network
2. E-Shodh Sindu
3. * Swayam

E-PG pathshala

Question Number : 59 Question Id : 97103632490 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In the following sections, which one deals with the punishment for cyber terrorism as per IT Act 2000.

Options:

1. **✓** 66 F

2. ***** 67 B

3. ***** 66 B

4. ***** 45 F

Question Number : 60 Question Id : 97103632491 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

'Joystick' refers to _____ device.

Options:

1. Output

2. * Storage

3. Input

Network . *

Question Number : 61 Question Id : 97103632492 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

Which organisation is established in India to promote, review, encourage, assist and coordinate science research?

Options:

ICSSR

2. ✓ CSIR

3. ₩ NCAR

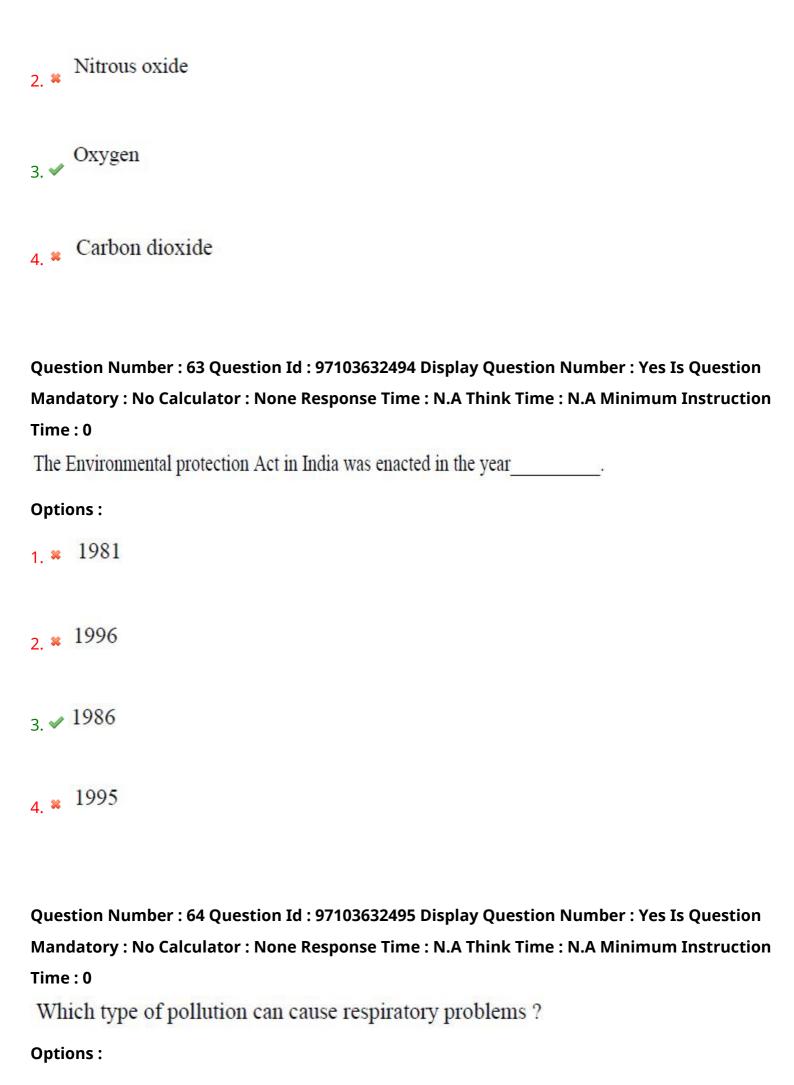
4. NCTE

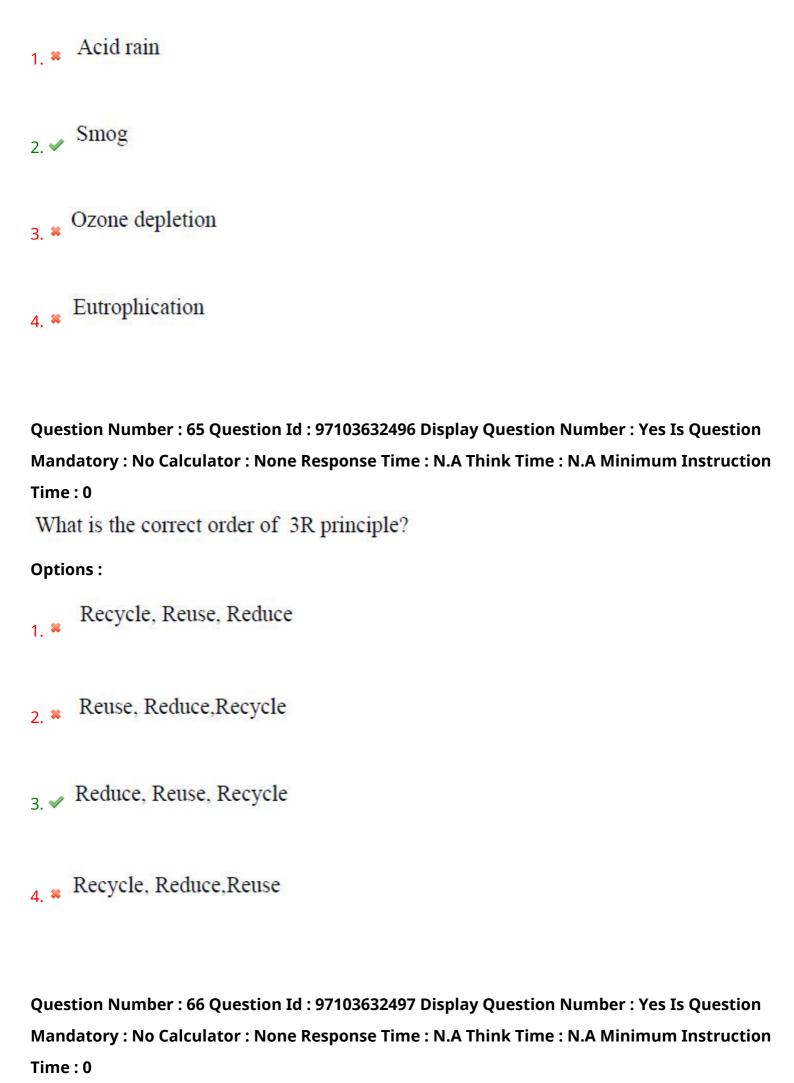
Question Number : 62 Question Id : 97103632493 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

In the following gases, which one is not considered as 'Green House Gas'

Options:

1. Methane





The Forest conservation Act was passed in the year
Options :
1. * 1986
2. * 1990
3. ✓ 1980
4. * 1988
Question Number: 67 Question Id: 97103632498 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 is an international treaty signed in 1987 to protect the ozone layer. Options: Rio Summit
Kyoto Protocol
Vienna convention
4. ✓ Montreal Protocol
4. VIOINICAI I TOTOCOI

Question Number : 68 Question Id : 97103632499 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0
Study the following Table and answer the questions from:

Department	Total number of employees	Percentage of females	Percentage of Males
IT	840	45	55
Accounts	220	35	65
Production	900	23	77
HR	360	65	35
Marketing	450	44	56
Customer Service	540	40	60

What is the total number of employees in all the departments together?

Options:

Question Number: 69 Question Id: 97103632500 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

Study the following Table and answer the questions from:

Total Number of Enfemales and males.	and the second s	ent departments	of an organisation	and percentage of

Department	Total number of employees	Percentage of females	Percentage of Males
IT	840	45	55
Accounts	220	35	65
Production	900	23	77
HR	360	65	35
Marketing	450	44	56
Customer Service	540	40	60

What is the respective ratio of the number of females in production department to the number of females in the marketing department?

Options:

- 1. * 22:23
- 2. * 35:33
- 3. 23:22
- 4. * 33:35

Question Number : 70 Question Id : 97103632501 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

Study the following Table and answer the questions from:

Total Number of Employees in different departments of an organisation and percentage of females and males.

Department	Total number of employees	Percentage of females	Percentage of Males
IT	840	45	55
Accounts	220	35	65
Production	900	23	77
HR	360	65	35
Marketing	450	44	56
Customer Service	540	40	60

What is the total number of males in the IT and customer service departments together

Options:

1. * 687

2. * 678

3. * 768

4. 🗸 786

Metallurgical Engineering

Section Id: 971036462

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

cieai kespoiise.

Maximum Instruction Time :

Is Section Default?:

null

0

Question Number: 71 Question Id: 97103632502 Display Question Number: Yes Is Question

 ${\bf Mandatory: No\ Calculator: None\ Response\ Time: N.A\ Think\ Time: N.A\ Minimum\ Instruction}$

Time: 0

Find the eigen value of the matrix $\begin{bmatrix} 5 & 4 \\ 1 & 2 \end{bmatrix}$

Options:

1. * 2 and 3

2. 4 6 and 1

3. **3** 0 and 2

4. * 4 and 6

Question Number: 72 Question Id: 97103632503 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

If λ_1 , λ_2 , λ_3 are the eigen values of the matrix $\begin{bmatrix} -2 & -9 & 5 \\ -5 & -10 & 7 \\ -9 & -21 & 14 \end{bmatrix}$ find the value of $\lambda_1 + \lambda_2 + \frac{1}{2}$

 λ_3 .

Options:

- 1. * -2
- 2. * 5
- **3. ≈ -**6
- 4. 🗸 2

Question Number: 73 Question Id: 97103632504 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

If
$$\lim_{x\to 0} \left\{ \frac{\log(3+x) - \log(3-x)}{x} \right\} = k$$
, the value of k is

Options:

- 1. * 0
- 2. * -1/3
- 3. **2**/3
- 4. * -2/3

Question Number: 74 Question Id: 97103632505 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

On the interval (1,3) the function f(x) = 3x + (2/x) is

Options:

- 1. * Strictly decreasing
- 2. Strictly increasing
- Decreasing in (2,3) only
- Neither increasing nor decreasing

Question Number: 75 Question Id: 97103632506 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

The area of the region bounded by the curve $y = x - x^2$ between x = 0 and x=1 is

- 1. 1/6
- 2. * 1/3
- 3. * 1/2
- 4. * 5/6

Question Number: 76 Question Id: 97103632507 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 a scalar point function is

Options:

Maximum in the direction other than $\nabla \phi$

2. * Minimum in any direction

3. \checkmark Maximum in the direction of $\nabla \phi$

Minimum in the direction of $\nabla \phi$

Question Number: 77 Question Id: 97103632508 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

The direction of maximum decrease of flow of heat in a temperature field T = x/y at

P(-8, 1) is

1.
$$\approx$$
 8i + j

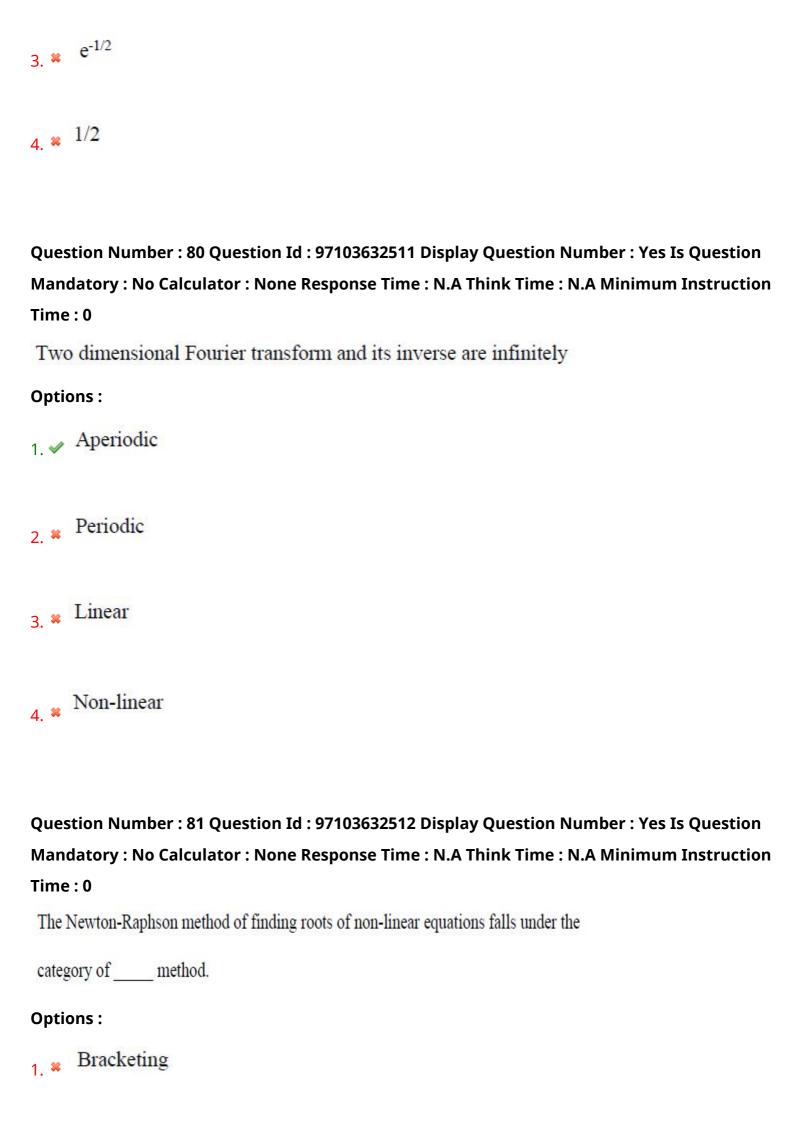
Question Number : 78 Question Id : 97103632509 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

The order and degree of the differential equation $\left(\frac{d^2y}{dx^2}\right) + \left(\frac{dy}{dx}\right)^{\frac{1}{3}} + \chi^{\frac{1}{4}} = 0$, are respectively

Options:

Question Number : 79 Question Id : 97103632510 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

If y(t) is a solution of
$$(1+t)\frac{dy}{dt} - ty = 1$$
 and y(0) = -1 then $y(1)$

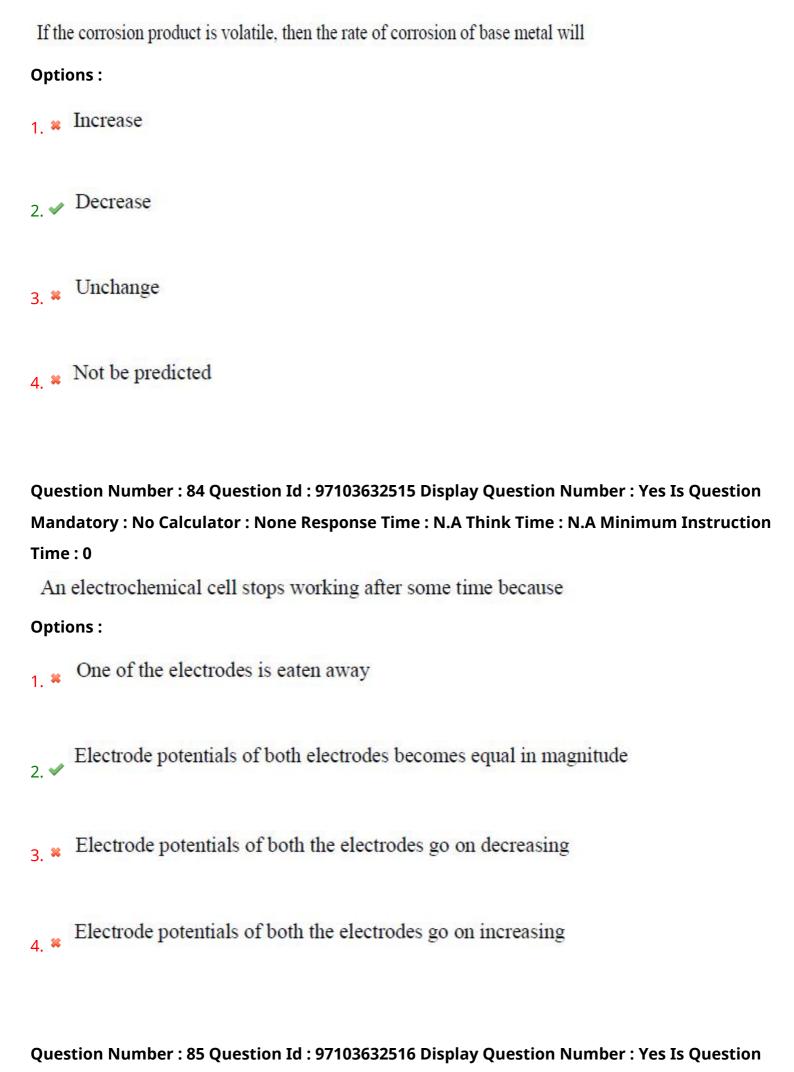


Question Number : 82 Question Id : 97103632513 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

To find $\int_a^b f(x) dx$ using Simpson's $\frac{1}{3}$ rule the points taken from a to b are $a = x_0 < x_1 < x_2 x_n = b$ then a passible value of n \Leftrightarrow is

Options:

Question Number: 83 Question Id: 97103632514 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0



Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Zeroth law of thermodynamics is concerned with
Options:
1. * Internal Energy
2. * Enthalpy
3. ✓ Thermal equilibrium
4. * Entropy
Question Number : 86 Question Id : 97103632517 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 The rate of corrosion is high if
Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 The rate of corrosion is high if Options:
Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 The rate of corrosion is high if Options: Anodic areas are small and cathodic areas are large

Question Number: 87 Question Id: 97103632518 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 a factor which does not influence the rate of reaction?

Options:

- Nature of reactants
- 2. * Concentration of reactants
- 3. * Temperature
- 4. ✓ Molecularity of reaction

Question Number : 88 Question Id : 97103632519 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

The first law of Thermodynamics is associated with

- 1. * Entropy
- 2. ✓ Internal energy
- 3. * Reversibility

4. * Irreversibility

Question Number: 89 Question Id: 97103632520 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

When diffusion rate is dependent on both time and position, it is termed as

Options:

- 1 / Non-steady state diffusion
- 2. * Steady state diffusion
- 3. * Diffusion couple
- 4. * Heat transfer diffusion

Question Number: 90 Question Id: 97103632521 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

If the rate of a reaction does not depend on the concentration of the reactants, it is

- Bimolecular reaction
- Trimolecular reaction

Zero order of reaction

4. * Second order of reaction

Question Number : 91 Question Id : 97103632522 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

What kind of corrosion is difficult to monitor and is very dangerous for metals?

Options:

- 1. * Crevice corrosion
- 2. * Galvanic corrosion
- 3. * Stress corrosion
- 4. Pitting corrosion

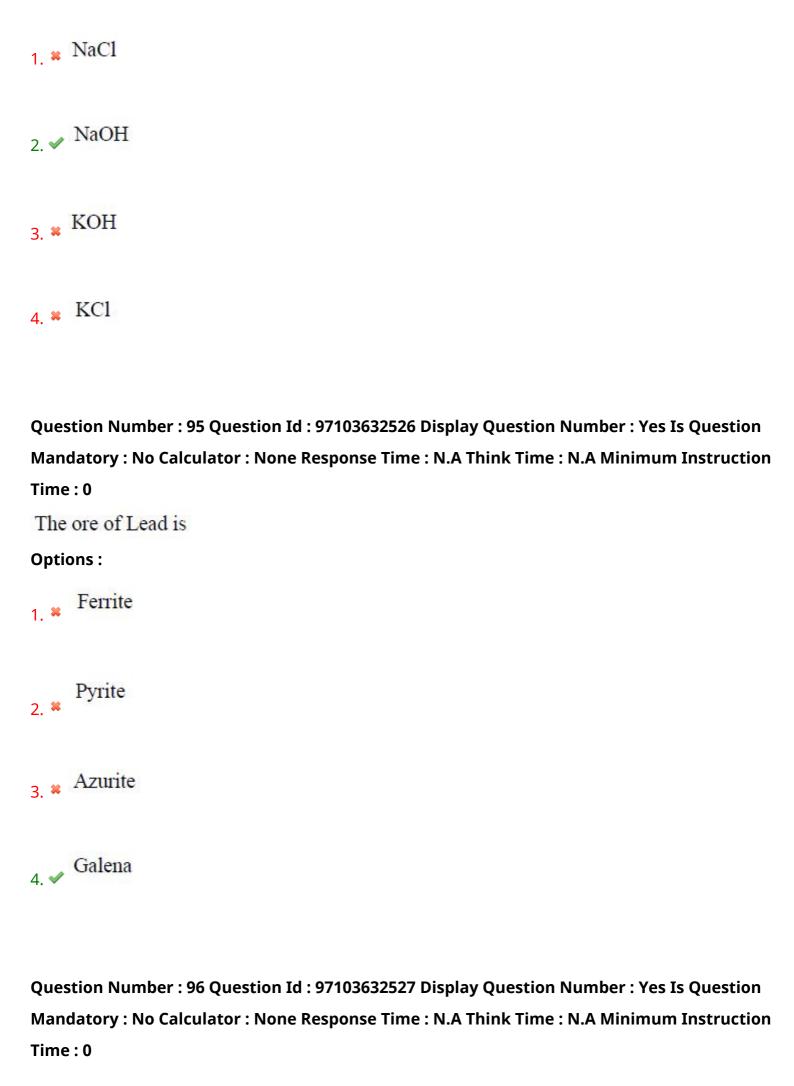
Question Number : 92 Question Id : 97103632523 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

All naturally occurring processes proceed spontaneously in a direction which leads to

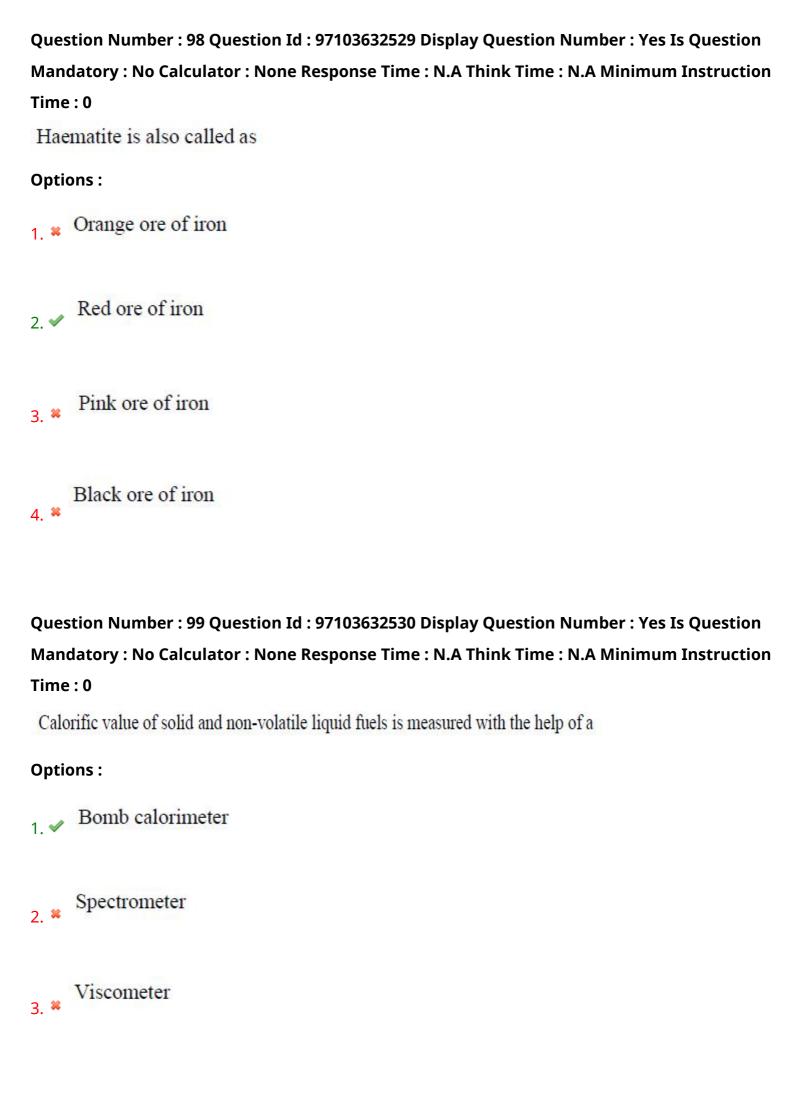
Options:

Increase in enthalpy

Decrease in free energy
3. * Decrease in entropy
Increase in free energy
Question Number : 93 Question Id : 97103632524 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 corpor are contains highest theoretical percentage corpor
Which of the following copper ore contains highest theoretical percentage copper content?
Options:
1. ** Chalcopyrite
2. * Azurite
3. Cuprite
4. * Enargite
Question Number: 94 Question Id: 97102622525 Display Question Number: Ves Is Question
Question Number: 94 Question Id: 97103632525 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction
Time: 0
Bauxite ore is leached under high pressure and at temperature of 220 ℃ in
Options:



Extraction of magnesium from sea water is called Options: 1. * Kroll's process 2. Dow process Electrolytic process Smelting Process Question Number: 97 Question Id: 97103632528 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Picthblende is an ore of **Options:** 1. * Gold 2. Silver 3. V Uranium 4. * Titanium



4. * Titrations

Question Number : 100 Question Id : 97103632531 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time: 0

Coal can be converted into coke by the process of

Options:

- Smelting
- 2. * Roasting
- Carbonization
- 4. * Melting

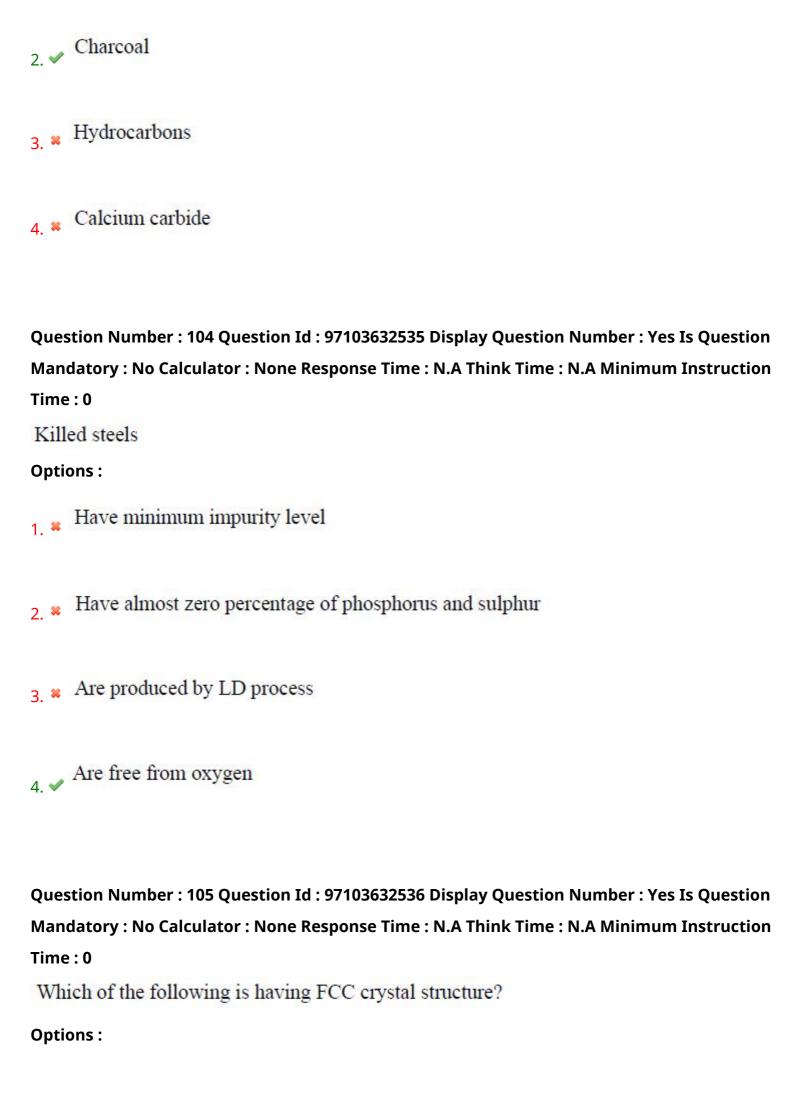
Question Number: 101 Question Id: 97103632532 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

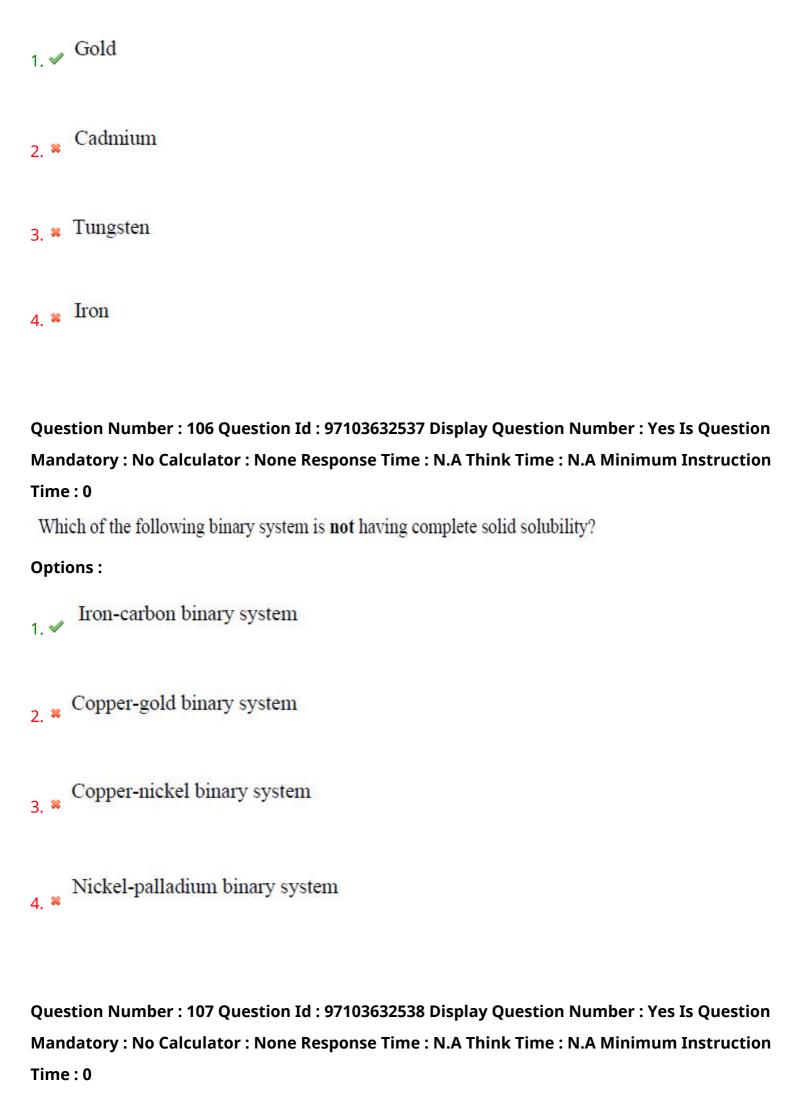
The breaking, cracking, peeling off or fracturing of a refractory material due to temperature changes is

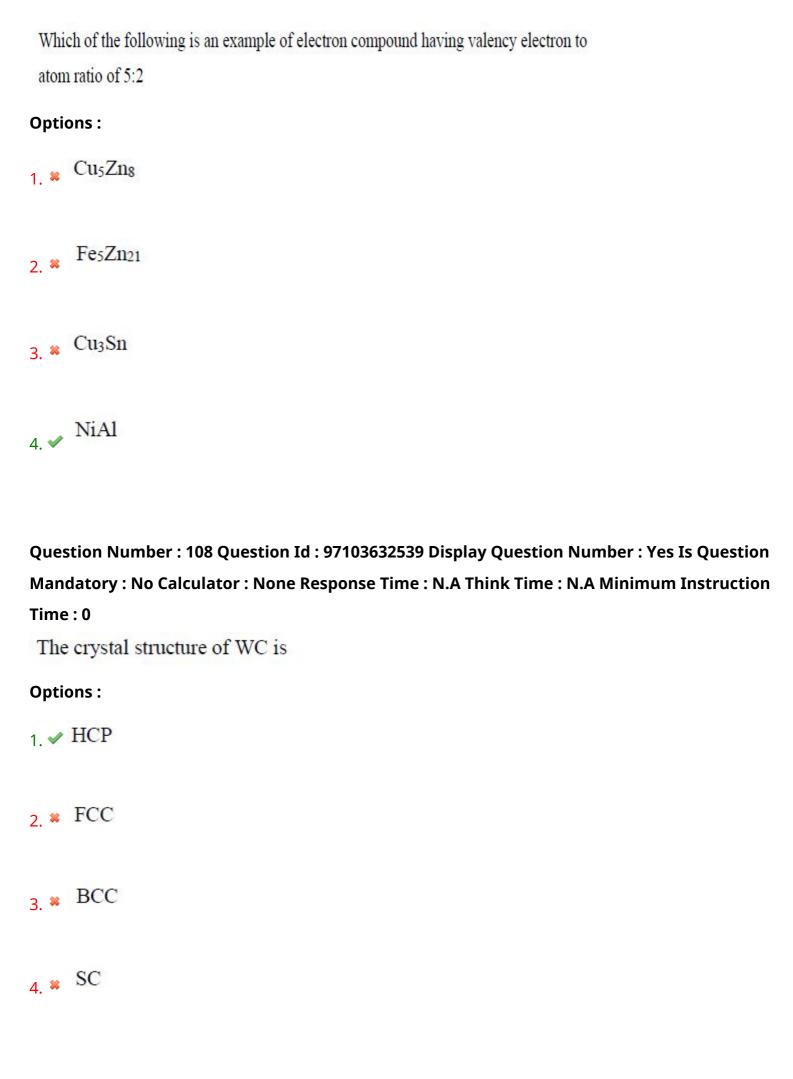
- 1. * Thermal fracturing
- 2. Thermal spalling

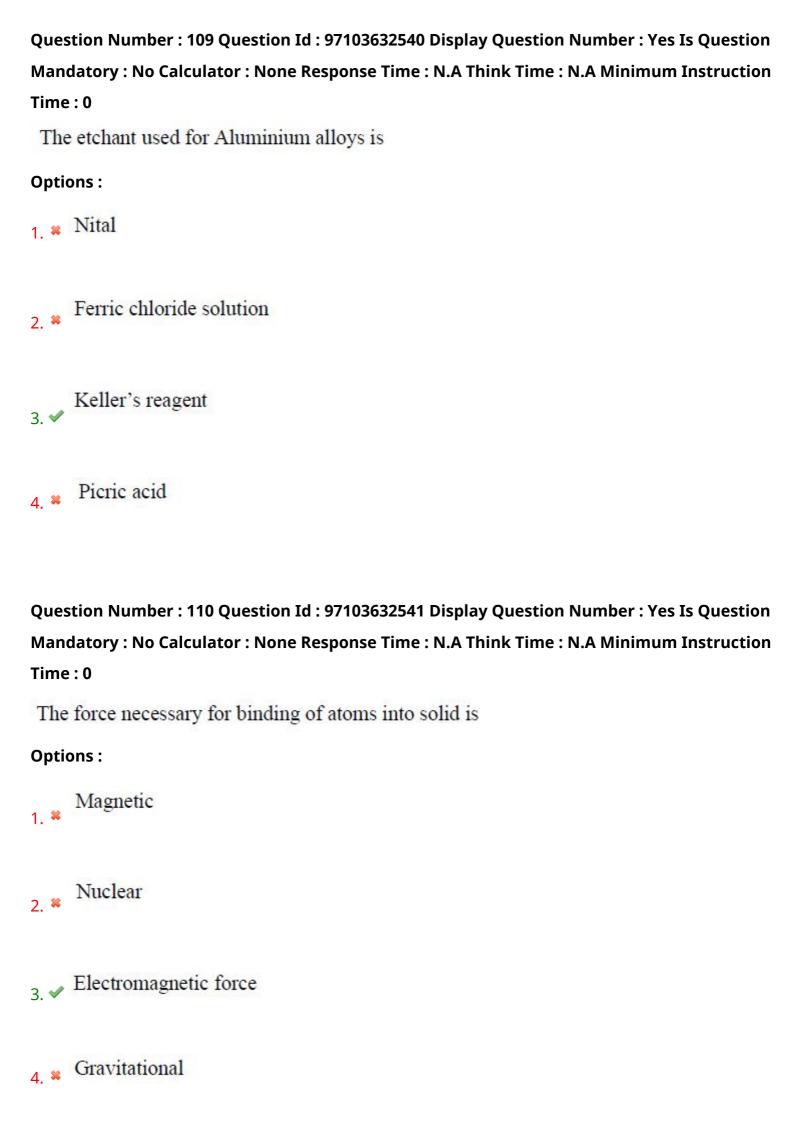
Thermal cracking 3. 💥 4. * Dimensional stability Question Number: 102 Question Id: 97103632533 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which of the following is non oxide refractory? **Options:** 1. * Alumina Zirconia 3. * Magnesia 4. Silicides Question Number: 103 Question Id: 97103632534 Display Question Number: Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time: 0 Pack carburising uses **Options:**

1. Sodium cyanide









Question Number: 111 Question Id: 97103632542 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

What type of bonding would be expected for rubber?

Options:

- 1. Covalent
- 2. Ionic
- 3. * Metallic
- 4. ✔ Van der Waals

Question Number: 112 Question Id: 97103632543 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

X-rays in the crystal interact with

- 1. * Nucleus
- 2. Orbital electrons
- 3. * Nucleus and orbital electrons

Magnetic field produced by electrons

Question Number: 113 Question Id: 97103632544 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

As the applied voltage increases, the minimum wavelength of X-radiation from a metal

Options:

- Increases
- 2. Decreases
- 3. * Remains unaltered
- 4. * Variable with metal

Question Number: 114 Question Id: 97103632545 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

Beer's law relates

- 1. * Light reflection
- 2. * Light refraction

- Light transmission
- Light absorption

Question Number: 115 Question Id: 97103632546 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

At high temperature a ferromagnetic material becomes

Options:

- 1. * Diamagnetic
- 2. Paramagnetic
- Hard ferromagnet
- Soft ferromagnet

Question Number : 116 Question Id : 97103632547 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

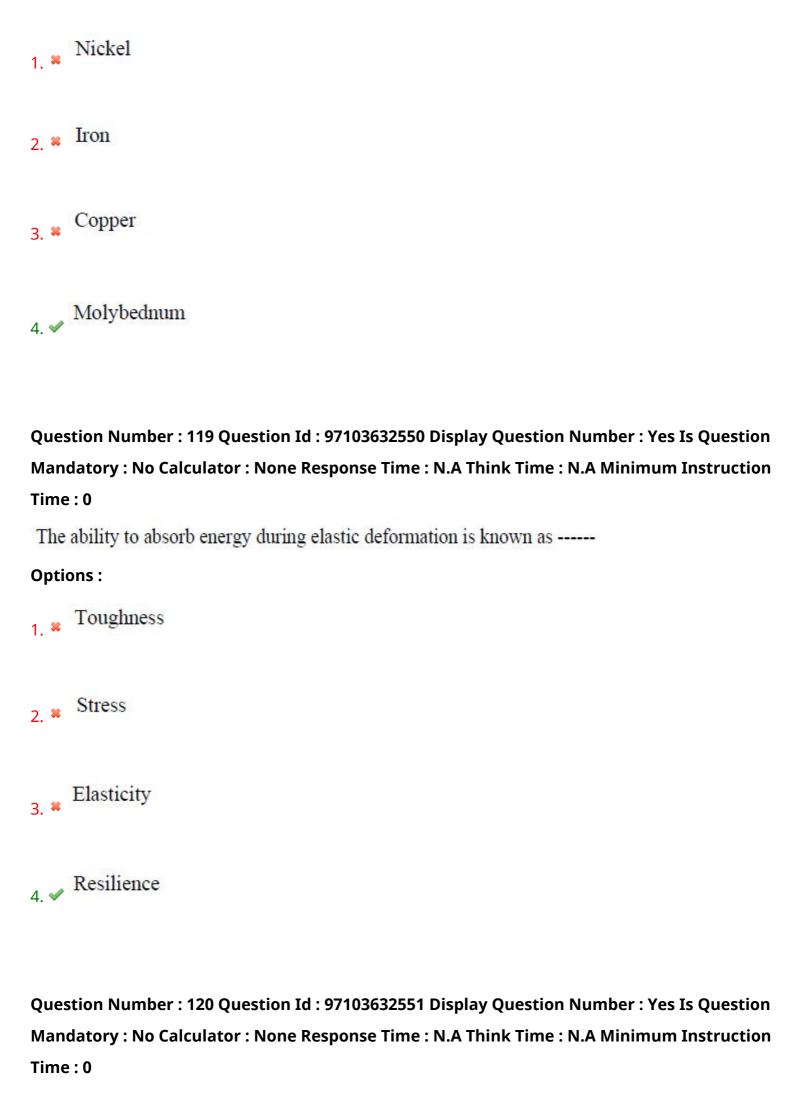
When the temperature of intrinsic semiconductor is increased

Options:

Resistance of semiconductor is also increased

2. * Conduction is decreased Energy of atoms is increased 4. * Holes are created Question Number: 117 Question Id: 97103632548 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 The increasing order of Shear modulus (GPa) is **Options:** Tungsten, Magnesium, Brass, Nickel Magnesium, Brass, Nickel, Tungsten Brass, Tungsten, Magnesiun, Nickel Nickel, Brass, Tungsten, Magnesium Question Number: 118 Question Id: 97103632549 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 having highest yield strength (MPa)



The strain hardening coefficient for low carbon steel in annealed condition is Options: 1.

0.21 2. * 0.44 3. * 0.16 4. * 0.17 Question Number: 121 Question Id: 97103632552 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 The slip direction {110} of BCC crystal is Options: 1. 🗸 <211> 2. * <112>

3. * <111>

4. * <121>

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Recrystallization temperature decreases with
Options:
1. ✓ Increasing percentage cold work
2. ** Decreasing percentage cold work
3. ** Unaffected by cold work
Exponential rise in cold work 4. **
Question Number: 123 Question Id: 97103632554 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0
Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction
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$\label{lem:magnitude} \begin{split} & \text{Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction} \\ & \text{Time: 0} \\ & \text{The magnitude of } K_{Ic} \text{ decreases with} \end{split}$
$\label{lem:magnitude} \begin{split} &\text{Mandatory}: \text{No Calculator}: \text{None Response Time}: \text{N.A Think Time}: \text{N.A Minimum Instruction} \\ &\text{Time}: 0 \\ &\text{The magnitude of } K_{Ic} \text{ decreases with} \\ &\text{Options}: \end{split}$
Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

Question Number: 124 Question Id: 97103632555 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 detect the subsurface defects?

Options:

- Optical microscopy
- 2. Scanning electron microscopy
- Radiography
- 4 ★ Visual inspection

Question Number: 125 Question Id: 97103632556 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

The order of stages of creep curve is

- Tertiary stage, Viscous stage and Transient stage
- Tertiary stage, transient stage and Viscous stage
- 3. * Viscous stage, Tertiary stage and Transient stage

Transient stage, Viscous stage and Tertiary stage

Question Number: 126 Question Id: 97103632557 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

The effect of temperature on long-time load-bearing properties is measured by

Options:

- 1. * Tensile test
- Hardness test
- Fracture test
- Stress rupture test

Question Number: 127 Question Id: 97103632558 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 processes does not improve fatigue strength of a component?

- 1. ✓ Electroplating
- 2. Nitriding

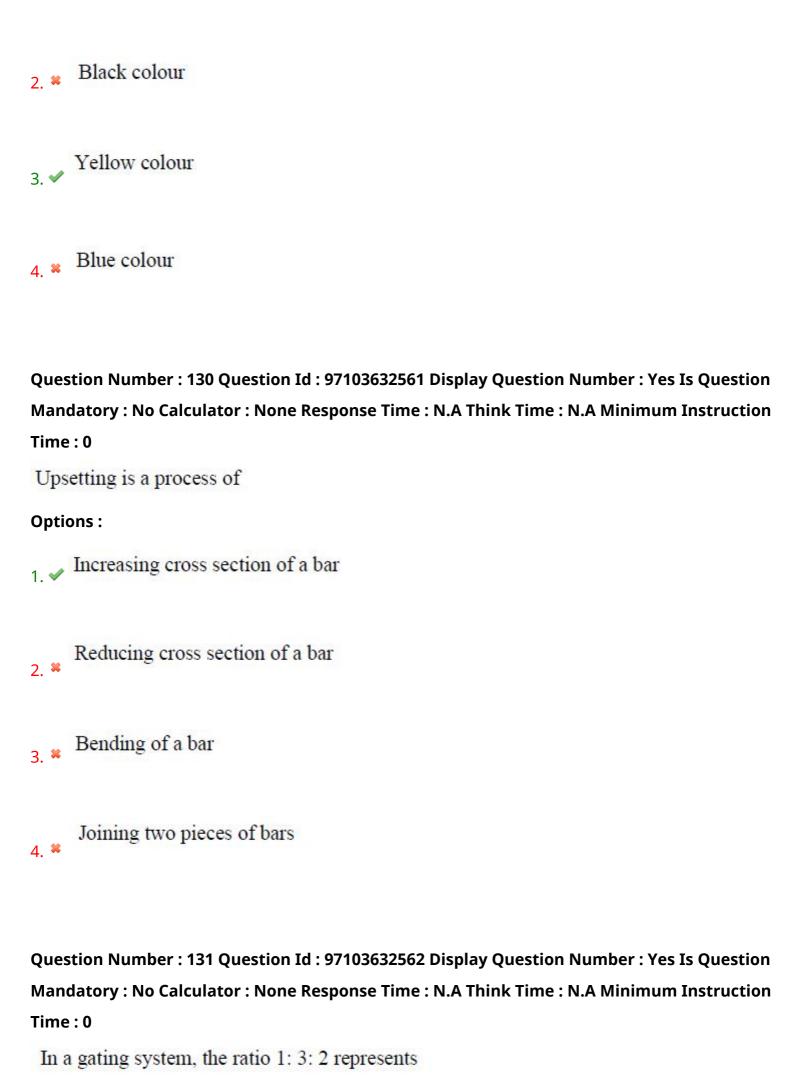
3. * Case carburizing Shot peening Question Number: 128 Question Id: 97103632559 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 The alloying element which decreases the susceptibility to temper embrittlement in steels is **Options:** 1. * Carbon 2. * Nickel 3. Molybednum Copper

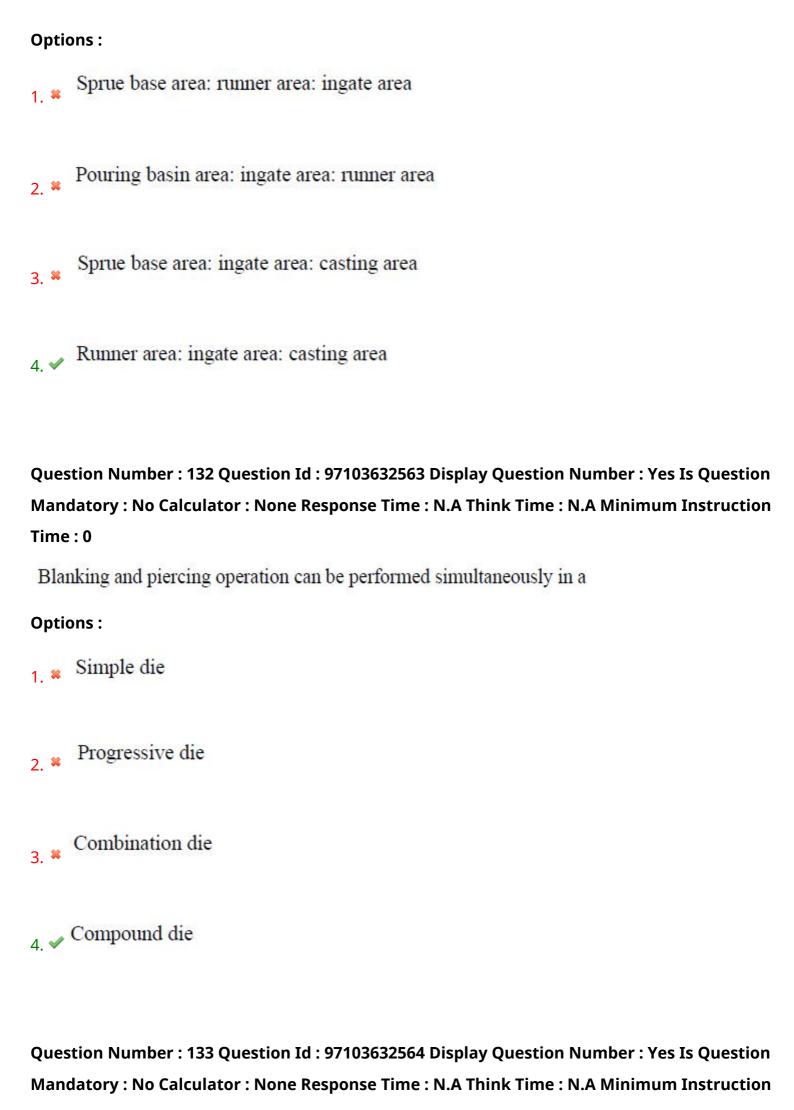
Question Number: 129 Question Id: 97103632560 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

As per the general colour code, surface to be left unmachined is marked on a pattern by

Options:

1. * Red colour





Time: 0 Which one of the following is a solid state welding process? **Options:** 1. * Electrons beam welding Friction welding Thermit welding 4. * Percussion welding Question Number: 134 Question Id: 97103632565 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Cold working of metals is carried out **Options:** Below lower critical temperature 2. * Below upper critical temperature Below recrystallization temperature 4. * Below 15 °C

Question Number: 135 Question Id: 97103632566 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 Which one of the following is not an electric resistance method of welding? **Options:** Electroslag welding 2. ✓ Percussion welding 3. * Seam welding 4. * Flash welding Question Number: 136 Question Id: 97103632567 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0 The ultrasonic waves are generated based on the principle of **Options:** 1. * Seeback effect 2. ✓ Piezoelectric effect 3. Heat effect 4. * Hall effect

Question Number: 137 Question Id: 97103632568 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

The following are the main factors which affect thermography measurements

Options:

- Emissivity, surroundings and atmosphere
- 2. Emissivity, surface nature of object and temperature
- Emmisivity, surface area of object and frequency of radiation
- Emissivity, operating frequency and atmosphere

Question Number: 138 Question Id: 97103632569 Display Question Number: Yes Is Question Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction Time: 0

In deep drawing, the ratio of sheet metal blank thickness to its diameter should be

- Equal to zero percent
- Equal to minus one percent
- Less than one percent

Greater than one percent

Question Number : 139 Question Id : 97103632570 Display Question Number : Yes Is Question

Mandatory: No Calculator: None Response Time: N.A Think Time: N.A Minimum Instruction

Time: 0

Spring back effect is found in

Options:

Forging 1. *

Bending 2. ✔

3. * Rolling

Drawing

Question Number : 140 Question Id : 97103632571 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 produces Luder bands?

Options:

1. Mild steel

2. * Stainless steel

3. * High speed steel

High carbon steel

4. *