

# TS SET

## Notations :

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

<b>Subject Name :</b>	CHEMICAL SCIENCES
<b>Duration :</b>	180
<b>Total Marks :</b>	300
<b>Display Marks:</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

## Teaching and Research Aptitude

<b>Group Number :</b>	1
<b>Group Id :</b>	270282243
<b>Group Maximum Duration :</b>	60
<b>Group Minimum Duration :</b>	60
<b>Show Attended Group? :</b>	No
<b>Edit Attended Group? :</b>	No
<b>Break time :</b>	0
<b>Group Marks :</b>	100
<b>Is this Group for Examiner? :</b>	No
<b>Examiner permission :</b>	Cant View
<b>Show Progress Bar? :</b>	No

## Teaching and Research Aptitude

<b>Section Id :</b>	270282243
<b>Section Number :</b>	1
<b>Section type :</b>	Online
<b>Mandatory or Optional :</b>	Mandatory
<b>Number of Questions :</b>	42
<b>Number of Questions to be attempted :</b>	42
<b>Section Marks :</b>	100
<b>Enable Mark as Answered Mark for Review and Clear Response :</b>	Yes
<b>Maximum Instruction Time :</b>	0
<b>Sub-Section Number :</b>	1
<b>Sub-Section Id :</b>	2702821354
<b>Question Shuffling Allowed :</b>	Yes
<b>Is Section Default? :</b>	null

Question Number : 1 Question Id : 27028218476 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No Correct Marks : 2 Wrong Marks : 0

The main objective of teaching at Higher Education Level is:

ఉన్నత విద్యా బోధనలో ప్రధాన లక్ష్యం

Options :

1. ✘ To prepare students to pass examination  
విద్యార్థులను పరీక్ష ఉత్తీర్ణతకు సిద్ధం చేయడం
2. ✔ To develop the capacity to take decisions  
నిర్ణయాలు తీసుకునే సామర్థ్యం పెంపొందించడం
3. ✘ To give new information  
నూతన సమాచారాన్ని ఇవ్వడం
4. ✘ To promote teacher-centred learning  
ఉపాధ్యాయ కేంద్రీకృతమైన విద్యను ప్రోత్సహించటం

Question Number : 2 Question Id : 27028218477 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No Correct Marks : 2 Wrong Marks : 0

The primary duty of the teacher is to

ఉపాధ్యాయుని ప్రధాన కర్తవ్యం

**Options :**

Raise the intellectual standard of the students.

1. ✘ విద్యార్థుల ప్రజ్ఞా సామర్థ్యాన్ని పెంపొందించడం

Improve the physical standard of the students.

2. ✘ విద్యార్థుల భౌతిక-ధారుణ్యాన్ని పెంచడం

Help all round development of the students.

3. ✔ విద్యార్థుల సమగ్రాభివృద్ధికి దోహదపడటం

Inculcate value system in the students.

4. ✘ విద్యార్థులందు విలువలను పెంచడం

**Question Number : 3 Question Id : 27028218478 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No Correct Marks : 2 Wrong Marks : 0**

Generally the most effective approach dealing with the child's aggressive behaviour is

పిల్లలలోగల దూకుడు ప్రవర్తన అడ్డుకునేందుకు గల ప్రతిభావంతమైన పద్ధతి:

**Options :**

to channel his/her aggression into legitimate areas of competition.

1. ✔ ఆమె/అతని దూకుడు ప్రవర్తనను వివిధ పోటీల్లో రాణించేట్లు చేయడం

to reward him/her for friendly behaviour and to ignore his/her aggressive behaviour.

2. ✘ ఆమె/అతని దూకుడు ప్రవర్తనని పట్టించుకోకుండా మంచి ప్రవర్తనకి ప్రోత్సాహకాలు ఇవ్వాలి

to give him due punishments, when he shows aggressive tendencies.

3. ✘ దూకుడు ప్రవర్తన కనబరచినపుడు శిక్షించడం

to insist that he/she apologies for his undesirable behaviour.

4. ✘ అనుచిత ప్రవర్తనకు క్షమాపన కోరమని అడగడం

Question Number : 4 Question Id : 27028218479 Question Type : MCQ Option Shuffling : No Is

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

Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No

Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is not correct with regard to lecture method in teaching?

బోధనలో ఉపన్యాసపద్ధతికి సంబంధం లేని ప్రవచనం

Options :

Develops reasoning

1. ✔ తార్కిక ఆలోచనను పెంపొందించడం

Improves knowledge

2. ✘ విషయ పరిజ్ఞానాన్ని పెంపొందించడం

It is one way process

3. ✘ ఇది ఏకదిశ ప్రక్రియ

In this Method students are passive

4. ✘ ఈ పద్ధతిలో విద్యార్థులు నిష్క్రియాత్మకంగా వుంటారు

Question Number : 5 Question Id : 27028218480 Question Type : MCQ Option Shuffling : No Is

**Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No Correct Marks : 2 Wrong Marks : 0**

"A diagram speaks more than 1000 words." The statement means that the teacher should

“ఒక చిత్రం వెయ్యి మాటలకంటే మెరుగైనది” అన్న ప్రవచనం ప్రకారం

**Options :**

use diagrams in teaching.

1. ✘ బోధనలో చిత్రపటాలను ఉపయోగించాలి

speak more and more in the class.

2. ✘ తరగతి గదిలో ఎక్కువగా మాట్లాడాలి.

use teaching aids in the class.

3. ✔ తరగతి గదిలో బోధనోపకరణాలను ఉపయోగించాలి

not speak too much in the class.

4. ✘ తరగతిలో ఎక్కువ మాట్లాడరాదు

**Sub-Section Number :**

2

**Sub-Section Id :**

2702821355

**Question Shuffling Allowed :**

Yes

**Is Section Default? :**

null

**Question Number : 6 Question Id : 27028218481 Question Type : MCQ Option Shuffling : No Is**

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

**Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No**

**Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is not a main task of research in modern society?

ఆధునిక సమాజంలో పరిశోధనా ప్రధానాంశం కానిది ఏది?

Options :

to keep pace with the advancement in knowledge.

1. ✘ ఆధునిక విషయ పరిజ్ఞానంలో ముందుండడం

to discover new things.

2. ✘ నూతనాంశాలను కనుగొనడం

to write a critique on the earlier writings.

3. ✔ గత రచనలపై విమర్శనాత్మక పరిశోధన చేయటం

to systematically examine and critically analyse.

4. ✘ క్రమబద్ధమైన పరిశీలన, విమర్శనాత్మక విశ్లేషణ చేయటం.

Question Number : 7 Question Id : 27028218482 Question Type : MCQ Option Shuffling : No Is

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

Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No

Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The research that applies the laws at the time of field study to draw more and more clear ideas about the problem is:

క్షేత్రస్థాయి అధ్యయనంలో సమస్యకు సంబంధించిన అంశాలను నిశితంగా పరిశీలించడానికి అవసరమైన విషయాలను అనుప్రయుక్తం చేసే పరిశోధనా రకం:

Options :

Historical research

1. ✘ చారిత్రక పరిశోధన

2. ✘ Action research  
చర్యాత్మక పరిశోధన

3. ✔ Experimental research  
ప్రయోగాత్మక పరిశోధన

4. ✘ Case study  
సందర్భ పరిశీలన

Question Number : 8 Question Id : 27028218483 Question Type : MCQ Option Shuffling : No Is  
Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum  
Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No  
Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No  
Correct Marks : 2 Wrong Marks : 0

The experimental study is based on:

ప్రయోగాత్మక అధ్యయనానికి మూలాధారం

Options :

1. ✔ The manipulation of variables  
వేరియబుల్స్ యొక్క తారుమారు

2. ✘ Conceptual parameters  
భావనాత్మక అంశాలు

3. ✘ Replication of research  
పరిశోధన పునఃపరిశీలన



Survey of literature

4. ✘ సాహిత్య సర్వేక్షణ

Question Number : 9 Question Id : 27028218484 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No Correct Marks : 2 Wrong Marks : 0

Which of the following sampling methods is not based on probability?

క్రింది వానిలో సంభావ్యతను అనుసరించని ప్రతిచయన పద్ధతి ఏది?

Options :

Simple Random Sampling

సరళ యాదృచ్ఛిక ప్రతిచయనం

1. ✘

Stratified Sampling

వర్గీకృత ప్రతిచయనం

2. ✘

Quota Sampling

కోటా ప్రతిచయనం

3. ✔

Systematic Sampling

క్రమ ప్రతిచయనం

4. ✘

Question Number : 10 Question Id : 27028218485 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Which of the following is the first step in starting the research process?

క్రింది వానిలో పరిశోధనకు సంబంధించిన మొదటి సోపానం ఏది?

Options :

Searching sources of tools.

1. ✘ పరిశోధనా పరికరాల ఆధారాలను శోధించడం

Survey of related literature

2. ✘ సంబంధిత పరిశోధనల సాహిత్యాన్ని సర్వే చేయడం

Identification of problem

3. ✔ సమస్యను గుర్తించడం

Searching for solutions to the problem

4. ✘ సమస్యకు పరిష్కారాలను వెదకడం

Sub-Section Number :

3

Sub-Section Id :

2702821356

Question Shuffling Allowed :

No

Is Section Default? :

null

Question Id : 27028218486 Question Type : COMPREHENSION Sub Question Shuffling Allowed

: No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed

Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Question Numbers : (11 to 15)

Question Label : Comprehension

### Sub questions

Question Number : 11 Question Id : 27028218487 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

How did home sewing help American women?

గృహ కుట్టు అమెరికన్ మహిళలకు ఎలా సహాయపడింది?

Options :

They became field analysts and researchers.

1. ✘ వారు ఫీల్డ్ విశ్లేషకులు మరియు పరిశోధకులు అయ్యారు.

They went beyond economic boundaries.

2. ✔ వారు ఆర్థిక సరిహద్దులను దాటి వెళ్ళారు

They found good jobs.

3. ✘ వారు మంచి ఉద్యోగాలను కనుగొన్నారు

They became excellent teachers.

4. ✘ వారు అద్భుతమైన ఉపాధ్యాయులు అయ్యారు

Question Number : 12 Question Id : 27028218488 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

Correct Marks : 2 Wrong Marks : 0

What improved the fit and efficiency of new garments?

నూతన వస్త్రాల అమరిక మరియు సామర్థ్యాన్ని మెరుగుపర్చినవి ఏవి?

Options :

Sewing machines

1. ✘ కుట్టుపని యంత్రాలు

Economists

2. ✘ ఆర్థికవేత్తలు

Mass production

3. ✘ భారీ ఉత్పత్తి

Paper patterns

4. ✔ పేపర్ నమూనాలు

Question Number : 13 Question Id : 27028218489 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

Correct Marks : 2 Wrong Marks : 0

What were the skills that were emphasized for young women?

యువతుల కొరకు నొక్కి చెప్పిన నైపుణ్యాలు ఏమిటి?

Options :

Self-confidence and self esteem

1. ✘ ఆత్మ విశ్వాసం మరియు ఆత్మ గౌరవం

Self-sufficiency and resourcefulness

2. ✓ స్వయం సమృద్ధి మరియు వనరులపరమైన సంసిద్ధత

Resourcefulness and self-confidence

3. ✘ వనరులపరమైన సంసిద్ధత మరియు ఆత్మ విశ్వాసం

Prudence and resourcefulness.

4. ✘ జాగరూకత మరియు వనరులపరమైన సంసిద్ధత

Question Number : 14 Question Id : 27028218490 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

Who became experts on the purchase and preservation of ready-to-wear clothing  
for the family?

కుటుంబం కోసం ధరించేందుకు సిద్ధంగా వున్న దుస్తులు కొనుగోలు మరియు సంరక్షణ నిపుణులుగా ఎవరు అయినారు?

Options :

Owners of department stores

1. ✘ డిపార్టుమెంటు దుకాణాల యజమానులు

Field-study analysts

2. ✘ క్షేత్ర (ఫీల్డ్) అధ్యయన విశ్లేషకులు

3. ✘

Young women

యువ మహిళలు

Teachers of home economics

4. ✓ గృహ ఆర్థిక ఉపాధ్యాయులు

Question Number : 15 Question Id : 27028218491 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

Who was the target group?

లక్ష్య సముహం ఎవరు?

Options :

Young women

1. ✘ యువ మహిళలు

School children

2. ✘ పాఠశాల విద్యార్థులు

Adolescent girls

3. ✓ కౌమార బాలికలు

Working women

4. ✘ పనిచేస్తున్న (వర్కింగ్) మహిళలు

Sub-Section Number :	4
Sub-Section Id :	2702821357
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 16 Question Id : 27028218492 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

The following are the barriers to effective communication except one. Find it out.

ఈ క్రింది వాటిలో ఒకటి మాత్రమే సమర్థవంతమైన సమాచార మార్పిడికి ఉండే అడ్డంకులు. దాన్ని కనుగొనండి.

1. Bypassing  
ఉపమార్గం
2. Proper encoding  
సరైన ఎన్కోడింగ్
3. Frame of reference  
ఫ్రేమ్ రిఫరెన్స్
4. Physical distraction  
భౌతిక పరధ్యానం
5. Psychological interference  
మానసిక జోక్యం
6. Emotional interference  
భావోద్వేగ జోక్యం
7. Cultural differences  
సాంస్కృతిక భేదాలు

The right code is:

సరైన కోడ్:

Options :

1. ✖ 3

2. ✓ 2

3. ✘ 5

4. ✘ 6

**Question Number : 17 Question Id : 27028218493 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

A teacher should have good communication skills. He / she will be a good communicator if he / she

ఒక గురువు మంచి సంభాషణ నైపుణ్యాలను కలిగి ఉండాలి. అతను / ఆమె ఒక మంచి ప్రసారకుడిగా ఉండటానికి:

**Options :**

Asks questions about his / her classroom

1. ✘ అతను / ఆమె తరగతి గది గురించి ప్రశ్నలు అడుగుతారు.

Helps students to score good marks / grades

2. ✘ విద్యార్థులు మంచి మార్కులు/గ్రేడ్స్ స్కోర్ చేయటానికి సహాయపడుతారు

Helps students to ask relevant questions

3. ✓ సంబంధిత ప్రశ్నలను అడగటానికి విద్యార్థులకు ప్రోత్సాహిస్తారు

Uses and provides instructional material

4. ✘ బోధనా సామాగ్రిని ఉపయోగిస్తూ, వాటిని అందచేస్తారు



Question Number : 18 Question Id : 27028218494 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

In the question given below are two statements labelled as **Assertion (A)** and **Reason (R)**.  
In the context of two which one of the following is correct?

క్రింద ఇచ్చిన ప్రశ్నలో రెండు ప్రకటనలు ఉన్నాయి. ప్రకటన (A) మరియు కారణం (R) అని పిలువబడతాయి.

**Assertion (A):** Women are depicted in a negative way in the media.

ప్రకటన (A) : మీడియాలో మహిళలను ప్రతికూలమైన పద్ధతిలో చిత్రీకరించారు.

**Reason (R):** Media has turned completely unethical in modern times.

కారణం (R): మీడియా ఆధునిక కాలంలో పూర్తిగా అనైతికంగా మారిపోయింది.

Options :

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

1. ✘ A మరియు R రెండూ నిజం, R అనేది A యొక్క సరైన వివరణ

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

2. ✘ A మరియు R రెండూ నిజమైనవి, R అనేది A యొక్క సరైన వివరణ కాదు

A is false, R is true

3. ✘ A తప్పు, R నిజం

A is true, R is false

4. ✔ A నిజం , R తప్పు

Question Number : 19 Question Id : 27028218495 Question Type : MCQ Option Shuffling : No

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**  
**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**  
**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**  
**No**

**Correct Marks : 2 Wrong Marks : 0**

What is 'Synchronous Media?'

‘సింక్రోనస్ మీడియా’ అంటే ఏమిటి?

**Options :**

Printed media

1. ✘ ప్రింట్ మీడియా

Media providing information about the issues and events

2. ✘ సమస్యలు మరియు సంఘటనలు గురించి సమాచారాన్ని అందించేది

Live telecast

3. ✔ ప్రత్యక్ష ప్రసారం

Media in digital environment

4. ✘ డిజిటల్ వాతావరణంలో మీడియా

**Question Number : 20 Question Id : 27028218496 Question Type : MCQ Option Shuffling : No**  
**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**  
**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**  
**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**  
**No**

**Correct Marks : 2 Wrong Marks : 0**

Mr. Ajay completed MA Economics. He is going to attend an interview. He dressed for the occasion. This is an example of \_\_\_\_\_ communication.

మిస్టర్ విజయ్ ఎం.ఎ అర్థశాస్త్రం పూర్తి చేసాడు. అతను ఒక ఇంటర్వ్యూకు హాజరు కానున్నాడు అతను సందర్భానుసారంగా దుస్తులును ధరించాడు. ఇది \_\_\_\_\_ కమ్యూనికేషన్ యొక్క ఒక ఉదాహరణ

**Options :**

Verbal

1. ✘ శబ్ద

Non-verbal

2. ✔ అశాబ్దిక

Emotional

3. ✘ భావోద్వేగ

Psychological

4. ✘ మానసిక

**Sub-Section Number :**

5

**Sub-Section Id :**

2702821358

**Question Shuffling Allowed :**

Yes

**Is Section Default? :**

null

**Question Number : 21 Question Id : 27028218497 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**

**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**

**No**

**Correct Marks : 2 Wrong Marks : 0**

The ratio to earnings expenditure of 'A' is 5:3 and that of 'B' is 7:6. If the savings of 'A' is twice that of 'B' then what could be the ratio of total earnings of 'A' and 'B' together to the total expenditure of 'A' and 'B'.

'A' యొక్క ఆదాయం వ్యయం నిష్పత్తి 5: 3 మరియు 'B' 7: 6 ఉంటుంది. 'A' యొక్క పొదుపులు 'B' కి రెండురెట్లు ఉంటే, 'A' మరియు 'B' మొత్తం ఆదాయం ఖర్చు నిష్పత్తి ఎంత అవుతుంది.

**Options :**

1. ✘ 2:1

2. ✔ 4:3

3. ✘ 5:3

4. ✘ 5:4

**Question Number : 22 Question Id : 27028218498 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

Two trains running at 45kmph and 54 kmph cross each other in 12 seconds when they run in opposite directions. When they run in same direction, a person in the faster train observes that he crossed the other train in 32 seconds. The lengths of the two trains are (in meters)

గంటకు 45 కిలోమీటర్ల మరియు 54 కిలోమీటర్ల వేగముతో, వ్యతిరేక దిశలో నడుస్తున్న రెండు రైళ్ళు ఒకదానితో ఒక దానినొకటి దాటుటకు 12 సెకనులు పట్టెను. అవి ఒకే దిశలో పయనం చేస్తున్నప్పుడు ఎక్కువ వేగము తో నడుస్తున్న రైలు లోని ఒక వ్యక్తి అతనిని 32 సెకన్లలో ఇతర రైలు దాటినట్లు గమనించాడు. రెండు రైళ్ల పొడవులు \_\_\_\_\_, \_\_\_\_\_ ఉన్నాయి (మీటర్లలో)

**Options :**

1. ✘ 54, 45

2. ✘ 180, 150

3. ✔ 250, 80

4. ✘ 220, 110

**Question Number : 23 Question Id : 27028218499 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

In a factory, for every five unskilled workers, there are two skilled workers. If 10 unskilled workers are dismissed and two skilled workers are taken, then the ratio of skilled workers is half. How many skilled workers are there in the factory?

ఒక కర్మాగారంలో ప్రతి ఐదుగురు నైపుణ్య లేని పనివాళ్ళకి ఇద్దరు నైపుణ్యగల పనివాళ్ళు వున్నారు. నైపుణ్యలేని 10 మంది పనివారిని తొలగించి, ఇద్దరు నైపుణ్యగల పనివారిని తీసుకొనిన నైపుణ్యగల పనివారి నిష్పత్తి సగము అయినది. ఆకర్మాగారములోనున్న నైపుణ్యగల పనివారి సంఖ్య

**Options :**

1. ✘ 8

2. ✘ 12

3. ✔ 14

4. ✘ 16

Question Number : 24 Question Id : 27028218500 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

The missing number in the sequence : 6, 14, 36, 98, \_\_\_\_\_ is

అనుక్రమంలో లోపించిన సంఖ్య: 6, 14, 36, 98, \_\_\_\_\_

Options :

1. ✘ 196

2. ✘ 212

3. ✔ 276

4. ✘ 300

Question Number : 25 Question Id : 27028218501 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

BUTTER is coded as 123345 then the code for TUBE is

'BUTTER' '123345' గా కోడ్ చేయబడింది. అప్పుడు 'TUBE' కోసం కోడ్

**Options :**

1. ✘ 1234

2. ✘ 4321

3. ✘ 3412

4. ✔ 3214

**Sub-Section Number :**

6

**Sub-Section Id :**

2702821359

**Question Shuffling Allowed :**

Yes

**Is Section Default? :**

null

**Question Number : 26 Question Id : 27028218502 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**

**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**

**No**

**Correct Marks : 2 Wrong Marks : 0**

Missing group of letters in the following

క్రింది క్రమంలో లోపించిన అక్షరాల సమూహం

BAZ, DBY, FCX, \_\_\_\_\_

**Options :**

1. ✘ FXW

2. ✘ EFX

3. ✘ FEY

4. ✔ HDW

Question Number : 27 Question Id : 27028218503 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

As 'BDEG' is related to 'DFGI' so 'HKMO' related to

'BDEG' కి 'DFGI' తో సంబంధము కలదు. అదే విధముగా 'HKMO' కి సంబంధము

Options :

1. ✘ JNOQ

2. ✘ JMOP

3. ✔ JMOQ

4. ✘ INLP

Question Number : 28 Question Id : 27028218504 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

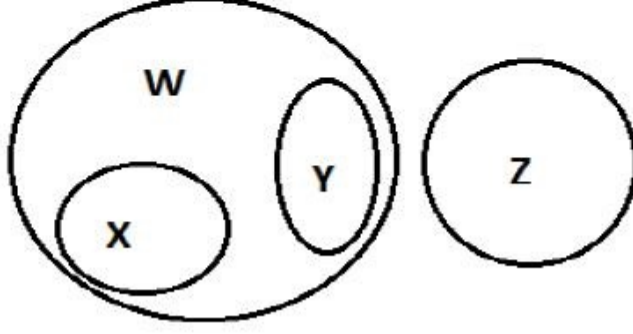


Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Which among the following statements is correct based on the following Venn diagram

క్రింది వెన్ చిత్రం ఆధారంగా ప్రవచనాలలో సరైనది ఏది



Options :

1. ✘ some X's are not W. ( కొన్ని X లు W లు కాదు )
2. ✘ some Y's are not W. ( కొన్ని Y లు W లు కాదు )
3. ✘ X's are Y's. ( X లు Y లు ).
4. ✔ W's are not Z. ( W లు Z లు కాదు )

Question Number : 29 Question Id : 27028218505 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The odd one among the following is

కింది వానిలో నున్న, ఒక సరిపోలని సంఖ్య

Options :

1. ✖ Rose ( గులాబీ )
2. ✖ Lotus ( తామర )
3. ✔ Orange ( నారింజ )
4. ✖ Lilly ( కలువ )

Question Number : 30 Question Id : 27028218506 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

? There are three married couples in a family of three generations. A is grandson of H;  
G is the mother in law of C; D and E are brothers. B is only nephew of E. F is the  
sister in law of D. B is the son of C. How is B related to G ?

మూడు తరాల కుటుంబంలో, మూడు వివాహిత జంటలు ఉన్నాయి. A, H యొక్క మనవడు; G  
అనేది C యొక్క అత్త; D మరియు E సోదరులు. B, E యొక్క మేనల్లుడు; F, D యొక్క వదిన లేదా  
మరుదులు (sister in law), B, C యొక్క కొడుకు, B కి G తో ఎలా సంబంధం?

Options :

1. ✖ Daughter ( కూతురు )
2. ✖ Wife ( భార్య )

3. ✓ Grandson (మనవడు)

4. ✘ Daughter in law (కొడలు)

**Sub-Section Number :** 7  
**Sub-Section Id :** 2702821360  
**Question Shuffling Allowed :** No  
**Is Section Default? :** null

**Question Id : 27028218507 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Question Numbers : (31 to 35)**

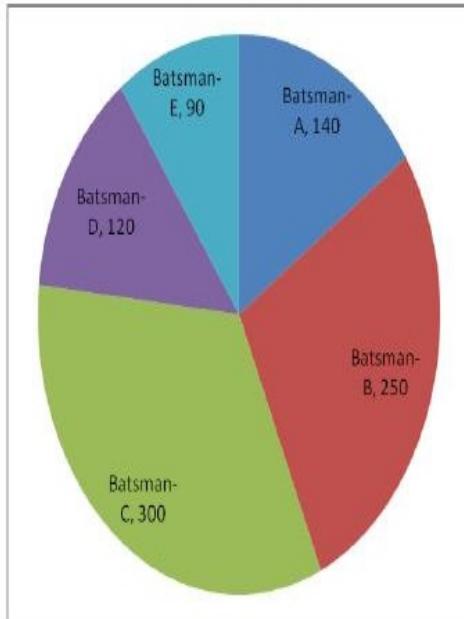
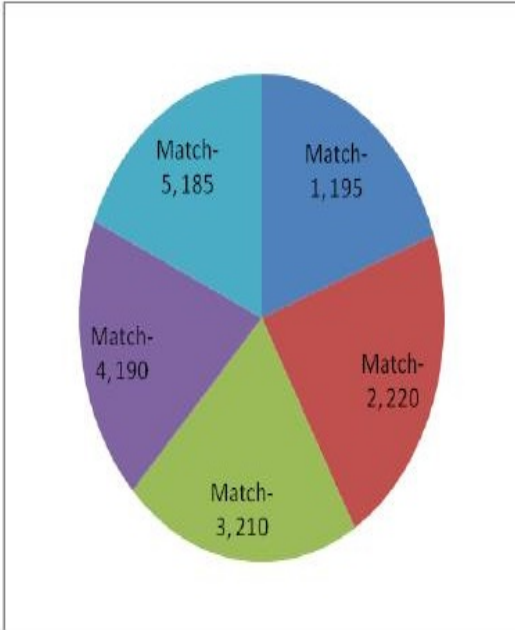
Question Label : Comprehension

**Note:** The questions Q. 31 to Q. 35 are based on the following information:

గమనిక: ప్రశ్నలు Q. 31 నుండి Q. 35 వరకు, కింది సమాచారం ఆధారంగా ఉన్నాయి.

The performance of 5 batsmen A, B, C, D and E playing for a team in a cricket series of five 20-20 matches is presented in the following pie charts. The first pie chart indicates the distribution of total runs scored by the team in the five matches and the second pie chart indicates the distribution of total runs scored by each batsman in the entire series. Assume each batsmen played in each match and the sum of individual scores of batsmen constitutes 90% of the total runs scored by the team in each match.

ఒక ఐదు 20-20 మ్యాచ్ ల క్రమములో, ఒక జట్టు కొరకు ఆడుతున్న A, B, C, D మరియు E అను ఐదుగురు బ్యాటింగ్ ఆటగాళ్ల యొక్క పరుగుల ప్రదర్శనను, కింది రెండు వృత్తాకార పటములలో పొందు పరచబడినది. మొదటి పై చార్ట్ ఐదు మ్యాచ్ లలో జట్టు చేసిన మొత్తం పరుగుల విభజనను సూచిస్తుంది. మరియు రెండవ పటము ప్రతి ఆటగాడు అన్ని మ్యాచ్ లలో కలిపి చేసిన పరుగుల విభజనను సూచిస్తుంది. ప్రతి ఆటగాడు అన్ని మ్యాచ్ లలో ఆడెను, మరియు అన్ని మ్యాచ్ లలో ఐదుగురు ఆటగాళ్ల పరుగుల మొత్తము, ఆ జట్టు చేసిన మొత్తము పరుగులలో 90% అనుకొనుము.



### Sub questions

Question Number : 31 Question Id : 27028218508 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

**Correct Marks : 2 Wrong Marks : 0**

The percentage of runs scored by the batsman E in the five matches scored by the team is

ఒక జట్టు ఐదు మ్యాచ్‌లలో చేసిన పరుగులలో, బ్యాట్స్మన్ E చే సాధించిన పరుగుల శాతం

**Options :**

1. ✘ 8

2. ✔ 9

3. ✘ 10

4. ✘ 13

**Question Number : 32 Question Id : 27028218509 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**

**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**

**No**

**Correct Marks : 2 Wrong Marks : 0**

The percentage of runs scored by batsman E in the runs scored by batsman C is

బ్యాట్స్మన్ C చేసిన పరుగులలో, బ్యాట్స్ మన్ E చేసిన పరుగుల శాతం

**Options :**

1. ✘ 10

2. ✘ 13.33

3. ✔ 30

4. ✖ 33.33

Question Number : 33 Question Id : 27028218510 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

By what percent C scored runs more than that of D?

బ్యాట్స్ మాన్ D కంటే C ఎక్కువగా చేసిన పరుగుల శాతం ఎంత ?

Options :

1. ✖ 10

2. ✖ 13.33

3. ✔ 20

4. ✖ 33.33

Question Number : 34 Question Id : 27028218511 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

In the runs scored by the team in all matches, the batsmen scored less than 26 % runs

are

అన్ని మ్యాచ్‌లలో జట్టు స్కోర్ చేసిన పరుగులలో, 26 శాతం కంటే తక్కువ పరుగులు చేసిన బ్యాట్స్‌మెన్

**Options :**

A and B

1. ✘ A మరియు B

A, B and D

2. ✘ A, B మరియు D

A, D and E

3. ✔ A, D మరియు E

A, B, D and E

4. ✘ A, B, D మరియు E

**Question Number : 35 Question Id : 27028218512 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**

**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**

**No**

**Correct Marks : 2 Wrong Marks : 0**

In the total runs scored by the team, the percentage of runs scored by B and C together is

జట్టు స్కోర్ చేసిన మొత్తము పరుగులలో, B మరియు C కలిపి చేసిన పరుగుల శాతం

**Options :**

1. ✘ 27.77

2. ✘ 42.85

3. ✘ 55.00

4. ✔ 61.11

**Sub-Section Number :** 8  
**Sub-Section Id :** 2702821361  
**Question Shuffling Allowed :** Yes  
**Is Section Default? :** null

**Question Number : 36 Question Id : 27028218513 Question Type : MCQ Option Shuffling : No**  
**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**  
**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**  
**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**  
**No**

**Correct Marks : 2 Wrong Marks : 0**

Which device is required for the Internet connection?

ఇంటర్నెట్ అనుసంధానికి ఏ పరికరం అవసరం

**Options :**

Joystick

1. ✘ జాయ్స్టిక్

Modem

2. ✔ మోడమ్

CD Drive

3. ✘ సి.డి. డ్రైవ్



NIC Card

4. ✘ ఎన్.ఐ.సి. కార్డు

Question Number : 37 Question Id : 27028218514 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

Correct Marks : 2 Wrong Marks : 0

Junk e-mail is also called

జంక్ ఇ-మెయిల్ను ఈ విధంగా కూడ పిలుస్తారు.

Options :

spam

1. ✔ స్పామ్

spooof

2. ✘ స్పూఫ్

sniffer script

3. ✘ స్నిఫర్ స్క్రిప్టు

spool

4. ✘ స్పూల్

Question Number : 38 Question Id : 27028218515 Question Type : MCQ Option Shuffling : No

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**  
**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**  
**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**  
**No**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is not a protocol used for internet communication

ఇంటర్నెట్ ప్రసారాలలో క్రింది వాటిలో ఏ ప్రోటోకాల్‌ను వాడము.

**Options :**

1. ✘ TCP/IP

2. ✘ HTTP

3. ✘ PPP

4. ✔ ISP

**Question Number : 39 Question Id : 27028218516 Question Type : MCQ Option Shuffling : No**  
**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**  
**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**  
**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**  
**No**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following files can be opened in browser without any plugins

ఏ ఫైల్ ఇన్లు లేకుండా బ్రోజర్‌లో క్రింది వాటిలో ఏ ఫైల్ తెరవగలము.

**Options :**

1. ✘ index.doc  
ఇండక్స్.డాక్

2. ✓ index.html  
ఇండక్స్.ఎచ్ఐటిఎమ్ఎల్

3. ✘ index ppt  
ఇండక్స్ పిపిటి

4. ✘ index dot  
ఇండక్స్ డాట్

Question Number : 40 Question Id : 27028218517 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

ICT in governance will not aim at  
ప్రభుత్వ ICT యొక్క లక్ష్యం ఇదికాదు

Options :

1. ✘ E-government : the application of IT for intra-governmental operations  
(Government to government or G2G)  
ఇ-ప్రభుత్వం: అంతర ప్రభుత్వ ప్రక్రియలకు IT వాడకం  
( ప్రభుత్వం నుంచి ప్రభుత్వం లేదా G2G)

2. ✘ E-service : the application of IT to transform the delivery of public services  
(Government to Citizens or G2C)  
ఇ-సేవలు: ప్రజాసేవలను మార్చటానికి IT వాడకం  
( ప్రభుత్వం నుంచి పౌరులకు లేదా G2C)

3. ✘

E-business : the application of IT to operations performed by government in the manner of G2B transactions (e.g. procurement)

ఇ-వాణిజ్యం : ప్రభుత్వం ద్వారా G2B తరహా వ్యవహారాలలో వాణిజ్యం చేయటానికి

E- education

4. ✓ ఇ-విద్య

**Sub-Section Number :** 9  
**Sub-Section Id :** 2702821362  
**Question Shuffling Allowed :** Yes  
**Is Section Default? :** null

**Question Number : 41 Question Id : 27028218518 Question Type : MCQ Option Shuffling : No**  
**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**  
**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

Laterite soil contains more of  
లాటరైట్ మట్టి ఇవి ఎక్కువగా ఉంటాయి.

**Options :**

Iron and Aluminium

1. ✓ ఇనుము, అల్యూమినియం

Magnesium and boron

2. ✘ మెగ్నీషియం, బోరాన్

3. ✘

## Manganese and Silicates

మాంగనీసు, సిలికేట్లు

Potassium and lead

4. ✘ పొటాషియం, సీసం

Question Number : 42 Question Id : 27028218519 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

Match the following:

క్రింది వాటిని జతపర్చుము.

- |  |                                     |
|--|-------------------------------------|
| 1. World Environmental Day<br>ప్రపంచ పర్యావరణ దినం | a. February, 2nd<br>ఫిబ్రవరి, 2     |
| 2. World Ozone day<br>ప్రపంచ ఓజోన్ దినం            | b. April, 22nd<br>ఏప్రిల్, 22       |
| 3. World Wetlands day<br>ప్రపంచ చిత్తడి నేలల దినం  | c. June, 5th<br>జూన్, 5             |
| 4. Earth day<br>ధరిత్ర దినం                        | d. September, 16th<br>సెప్టెంబర్ 16 |

Options :

1. ✘ 1-b, 2-d, 3-a, 4-c

2. ✘ 1-d, 2-c, 3-b, 4-a

3. ✔ 1-c, 2-d, 3-a, 4-b

4. ✘ 1-b, 2-c, 3-d, 4-a

Question Number : 43 Question Id : 27028218520 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

Eco-labelling of Commerical Products is regulated by

వాణిజ్య ఉత్పత్తులపై పర్యావరణ ముద్రను ఇది నియంత్రిస్తుంది.

Options :

1. ✔ ISO 14020

2. ✘ ISO 14010

3. ✘ ISO 14030

4. ✘ ISO 14040

Question Number : 44 Question Id : 27028218521 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

The EL Nino disappears in March and re-appears in

ఇఎల్ నిన్ మార్చిలో అంతర్ధానమవుతుంది. మరియు ఎపుడు పునరుద్ధానమవుతుంది.

**Options :**

May

1. ✘ మే

August

2. ✘ ఆగష్టు

October

3. ✘ అక్టోబర్

December

4. ✔ డిసెంబర్

**Question Number : 45 Question Id : 27028218522 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**

**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**

**No**

**Correct Marks : 2 Wrong Marks : 0**

Match the following:

ఈ క్రింది వాటిని జతపరచుము.

**List - I**

(పట్టిక - 1)

1. CFC
2. Co<sub>2</sub>, Methane
3. BOD & COD
4. MIC

**List - II**

(పట్టిక-2)

- a. Water Pollution  
జల కాలుష్యం
- b. Bhopal tragedy  
భోపాల్ విషాదం
- c. Noise Pollution  
ధ్వని కాలుష్యం
- d. Ozone Depletion  
ఓజోన్ తగ్గుదల
- e. Global Warming  
భూతాపం

**Options :**

1. ✘ 1-b, 2-c, 3-e, 4-a

2. ✘ 1-c, 2-b, 3-a, 4-d

3. ✘ 1-d, 2-b, 3-c, 4-e

4. ✔ 1-d, 2-e, 3-a, 4-b

**Sub-Section Number :**

10

**Sub-Section Id :**

2702821363

**Question Shuffling Allowed :**

Yes

**Is Section Default? :**

null



Question Number : 46 Question Id : 27028218523 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

The mode of educational transaction in ancient system of Gurukul education used to be

పురాతన కాలంలోని గురుకులాలలో విద్యా ప్రక్రియ క్రింది అంశాల ద్వారా కొనసాగింది.

Options :

Vocational based

1. ✘ వృత్తిప్రాతిపదికన

Values based

2. ✘ విలువల ప్రాతిపదికన

Skills based

3. ✘ నైపుణ్యాల ప్రాతిపదికన

All the above

4. ✔ పైవన్నీ

Question Number : 47 Question Id : 27028218524 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

According to Radhakrishnan Commission, which of the following is not the aim of Higher Education?

రాధాకృష్ణన్ కమిషన్ ప్రకారం క్రిందివానిలో ఉన్నత విద్యా లక్ష్యం కానిది

**Options :**

To develop the democratic values, peace and harmony  
1. ✘ ప్రజాస్వామ్య విలువలు, శాంతిసామరస్యాలను పెంపొందించడం

To develop great personalities who can give their contributions in various fields  
2. ✘ వివిధ రంగాలలో రాణించగల వ్యక్తిత్వాలను రూపుదిద్దడం

To develop vocational skills and traditional crafts  
3. ✔ వృత్తి నైపుణ్యాలు, సాంప్రదాయ చేతివృత్తులను అభివృద్ధి చేయడం

To develop reasoning and critical thinking  
4. ✘ తార్కిక, విమర్శనాత్మక దృష్టి పెంపొందించడం

**Question Number : 48 Question Id : 27028218525 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No**

**Correct Marks : 2 Wrong Marks : 0**

Foundation training to the newly recruited IAS (Probationers) is imparted by:  
నూతనంగా ఎంపికైన ఐఎఎస్ ప్రాబేషనరీ అభ్యర్థులకు శిక్షణ ఇచ్చే సంస్థ

**Options :**

Indian Institute of Public Administration  
1. ✘ భారత ప్రజాపరిపాలన సంస్థ

Administrative Staff College of India  
2. ✘ భారత పరిపాలన శిక్షణ కళాశాల

L.B.S. National Academy of Administration

లాల్బహదూర్శాస్త్రి జాతీయ పరిపాలన అకాడమి

3. ✓

Centre for Advanced Studies

4. ✘

ఆధునిక అధ్యయనాల కేంద్రం

Question Number : 49 Question Id : 27028218526 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

Correct Marks : 2 Wrong Marks : 0

The full form of NAAC is \_\_\_\_\_

NAAC యొక్క పూర్తి రూపం \_\_\_\_\_

Options :

National Assessment Accreditation Council

1. ✓

నేషనల్ ఎసెస్మెంట్ ఆండ్ ఎక్రెడిటేషన్

National Assessment and Accreditation Chamber

2. ✘

నేషనల్ ఎసెస్మెంట్ ఆండ్ ఎక్రెడిటేషన్ చేంబర్

National Assessment and Adjudication Council

3. ✘

నేషనల్ ఎసెస్మెంట్ ఆండ్ ఎడ్జుడికేషన్ కౌన్సిల్

National Accession and Accreditation Council

4. ✘

నేషనల్ ఎక్సెషన్ ఆండ్ ఎక్రెడిటేషన్ కౌన్సిల్

Question Number : 50 Question Id : 27028218527 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

Which of the following type of universities cannot award degrees

క్రింది వానిలో ఉన్నత విద్యకు సంబంధించిన పట్టాలు ఇవ్వడానికి అనుమతిలేని విశ్వవిద్యాలయాలు

Options :

- State University
1. ✘ రాష్ట్ర విశ్వవిద్యాలయం
- Private University
2. ✘ ప్రైవేటు విశ్వవిద్యాలయము
- Deemed to be University
3. ✘ డిప్లీ విశ్వవిద్యాలయం
- None of the above
4. ✔ పైవేవి కావు

## CHEMICAL SCIENCES

Group Number : 2  
Group Id : 270282244  
Group Maximum Duration : 120

<b>Group Minimum Duration :</b>	120
<b>Show Attended Group? :</b>	No
<b>Edit Attended Group? :</b>	No
<b>Break time :</b>	0
<b>Group Marks :</b>	200
<b>Is this Group for Examiner? :</b>	No
<b>Examiner permission :</b>	Cant View
<b>Show Progress Bar? :</b>	No

## **CHEMICAL SCIENCES**

<b>Section Id :</b>	270282244
<b>Section Number :</b>	1
<b>Section type :</b>	Online
<b>Mandatory or Optional :</b>	Mandatory
<b>Number of Questions :</b>	100
<b>Number of Questions to be attempted :</b>	100
<b>Section Marks :</b>	200
<b>Enable Mark as Answered Mark for Review and Clear Response :</b>	Yes
<b>Maximum Instruction Time :</b>	0
<b>Sub-Section Number :</b>	1
<b>Sub-Section Id :</b>	2702821364
<b>Question Shuffling Allowed :</b>	Yes
<b>Is Section Default? :</b>	null

**Question Number : 51 Question Id : 27028218528 Question Type : MCQ Option Shuffling : No  
 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
 Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
 Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**

No

Correct Marks : 2 Wrong Marks : 0

'The red color of oxyhaemoglobin is mainly due to the

Options :

1. ✘ d-d transition
2. ✘ metal to ligand charge transfer transition
3. ✘ ligand to metal charge transfer transition
4. ✔ intra ligand  $\Pi - \Pi^*$  transition

Question Number : 52 Question Id : 27028218529 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

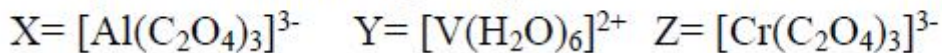
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

Correct Marks : 2 Wrong Marks : 0

Designate the following complexes X, Y and Z as inert or labile



Options :

1. ✘ X is inert, Y and Z are labile
2. ✔ X is labile, Y and Z are inert
3. ✘ X, Y are inert, Z is labile

4. ✘ X and Z are labile, Y is inert

Question Number : 53 Question Id : 27028218530 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

Both NaCl and KCl crystallize with the FCC structure. However, the X-ray powder diffraction pattern corresponds to the FCC structure whereas that of KCl corresponds to simple cubic structure. This is because

Options :

1. ✔  $K^+$  and  $Cl^-$  are isoelectronic
2. ✘  $Na^+$  and  $Cl^-$  are isoelectronic
3. ✘  $K^+$  and  $Cl^-$  are disordered in the crystal lattice
4. ✘ KCl has anti-site defects

Question Number : 54 Question Id : 27028218531 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

Consider the following statements, I and II:

Statement I: The sizes of Zr and Hf are similar.

Statement II: Size of Hf is affected by lanthanide contraction.

**Options :**

1. ✓ Statement I and II are correct and II is correct explanation of I.
2. ✗ Statement I and II are correct and II is not a correct explanation of I.
3. ✗ Statement I is correct and II is incorrect
4. ✗ Statements I and II both are incorrect.

**Question Number : 55 Question Id : 27028218532 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**

**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**

**No**

**Correct Marks : 2 Wrong Marks : 0**

The normal spinel among the following mixed metal-oxides is

**Options :**

1. ✗  $\text{CoFe}_2\text{O}_4$
2. ✗  $\text{NiFe}_2\text{O}_4$
3. ✗  $\text{CuFe}_2\text{O}_4$
4. ✓  $\text{ZnFe}_2\text{O}_4$



Question Number : 56 Question Id : 27028218533 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

Consider the following statements, I and II:

Statement I:  $[\text{Rh}(\text{CO})_2\text{I}_2]^-$  catalytically converts  $\text{CH}_3\text{I}$  and  $\text{CO}$  to  $\text{CH}_3\text{COI}$ .

Statement II:  $[\text{Rh}(\text{CO})_2\text{I}_2]^-$  is diamagnetic in nature.

The correct from the following is

Options :

1. ✘ I and II are correct and II is an explanation of I.
2. ✔ I and II are correct and II is not an explanation of I.
3. ✘ I is correct and II is incorrect
4. ✘ I and II both are incorrect

Question Number : 57 Question Id : 27028218534 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

Consider the following statements, I and II:

Statement I. U(VI) is more stable than Nd(VI).

Statement II. The valence electrons in U are in 5f, 6d and 7s orbitals.

**Options :**

1. ✘ Statement I and II are correct and II is correct explanation of I
2. ✔ Statement I and II are correct but statement II is not an explanation for statement I
3. ✘ Statement I is correct and statement II is incorrect
4. ✘ Statements I and II both are incorrect

**Question Number : 58 Question Id : 27028218535 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**

**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**

**No**

**Correct Marks : 2 Wrong Marks : 0**

Under physiological condition, oxygen is binding to deoxy-hemoglobin and deoxy-myoglobin, the binding curve and its pH dependence respectively are

**Options :**

1. ✔ sigmoidal & pH dependent; hyperbolic and pH independent
2. ✘ hyperbolic and pH independent; sigmoidal & pH dependent
3. ✘ sigmoidal & pH independent; hyperbolic and pH dependent

4. ✘ hyperbolic and pH independent; sigmoidal & amp; pH dependent

Question Number : 59 Question Id : 27028218536 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

Match the following complexes with their  $\nu_{CO}$  stretching frequency-

Complex	$\nu_{CO}$ ( $\text{cm}^{-1}$ ) values
(a) $\text{Mo}(\text{PF}_3)_3(\text{CO})_3$	(i) 1835, 1934
(b) $\text{Mo}\{\text{P}(\text{OMe})_3\}_3(\text{CO})_3$	(ii) 1888, 1977
(c) $\text{Mo}(\text{PPh}_3)_3(\text{CO})_3$	(iii) 2055, 2090
(d) $\text{Mo}(\text{pyridine})_3(\text{CO})_3$	(iv) 1746, 1888

The correct match is-

Options :

1. ✘ a-i; b-iv; c-ii; d-iii

2. ✔ a-iii; b-ii; c-i; d-iv

3. ✘ a-iv; b-iii; c-i; d-ii

4. ✘ a-i; b-ii; c-iii; d-iv

Question Number : 60 Question Id : 27028218537 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

Correct Marks : 2 Wrong Marks : 0

Reaction of  $\text{Fe}(\text{CO})_5$  with  $\text{OH}^-$  leads to complex A which on oxidation with  $\text{MnO}_2$  gives B. Compounds A and B respectively are

Options :

1. ✓  $[\text{HFe}(\text{CO})_4]^-$  and  $\text{Fe}_3(\text{CO})_{12}$
2. ✗  $[\text{Fe}(\text{CO})_5(\text{OH})]^-$  and  $\text{Fe}_2(\text{CO})_9$
3. ✗  $[\text{Fe}(\text{CO})_4]^{2-}$  and  $\text{Mn}_2(\text{CO})_{10}$
4. ✗  $[\text{HFe}(\text{CO})_4]^-$  and  $\text{Fe}_2\text{O}_3$

Question Number : 61 Question Id : 27028218538 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

Correct Marks : 2 Wrong Marks : 0

The sequence of three steps involved in the following conversion is



Options :

1. ✗ (i) Friedel-Crafts alkylation; (ii) Reduction; (iii) Friedel-Crafts acylation
2. ✓ (i) Friedel-Crafts acylation; (ii) Friedel-Crafts alkylation; (iii) Reduction

3. ✘ (i) Friedel-Crafts acylation; (ii) Reduction; (iii) Friedel-Crafts alkylation

4. ✘ (i) Friedel-Crafts alkylation; (ii) Friedel-Crafts acylation; (iii) Reduction

Question Number : 62 Question Id : 27028218539 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

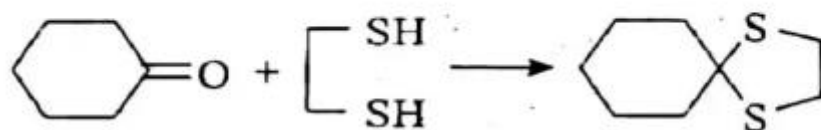
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

Correct Marks : 2 Wrong Marks : 0

A Suitable catalyst for bringing out the transformation given below is



Options :

1. ✔ BF<sub>3</sub>. Et<sub>2</sub>O

2. ✘ NaOEt

3. ✘ tungsten lamp

4. ✘ dibenzoyl peroxide

Question Number : 63 Question Id : 27028218540 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Acetophenone can be converted to phenol by reaction with

Options :

1. ✓ m-CPBA followed by base catalyzed hydrolysis
2. ✗ Conc.  $\text{HNO}_3$
3. ✗ iodine and NaOH
4. ✗ Singlet oxygen followed by base catalyzed hydrolysis

Question Number : 64 Question Id : 27028218541 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Reaction of cyclohexyl benzyl ether with hydrogen in the presence of 10% Pd/C yields

Options :

1. ✓ cyclohexanol and toluene
2. ✗ cyclohexanol and benzyl alcohol

3. ✘ cyclohexane and benzyl alcohol

4. ✘ cyclohexane and toluene

Question Number : 65 Question Id : 27028218542 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

Correct Marks : 2 Wrong Marks : 0

The reagent suitable for effecting the following Transformation is



Options :

1. ✘ CH<sub>2</sub>N<sub>2</sub>

2. ✘ CH<sub>3</sub> Li

3. ✘ (CH<sub>3</sub>)<sub>2</sub>CuLi

4. ✔ Ph<sub>2</sub>P = CH<sub>2</sub>

Question Number : 66 Question Id : 27028218543 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

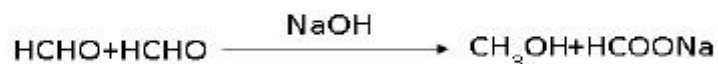
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

Correct Marks : 2 Wrong Marks : 0

In the Cannizzaro reaction given below:



The slowest step is:

Options :

1. ✘ The attack of  $\text{OH}^-$  at carbonyl group
2. ✔ The transfer of hydride ion to the carbonyl group
3. ✘ Deprotonation of  $-\text{COOH}$  group
4. ✘ The deprotonation of  $-\text{CH}_2\text{OH}$  group

Question Number : 67 Question Id : 27028218544 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

Correct Marks : 2 Wrong Marks : 0

The decreasing order of nucleophilicity for the following anions is  
 $\text{CH}_3\text{COO}^-$ ,  $\text{CH}_3\text{O}^-$ ,  $\text{C}_6\text{H}_5\text{O}^-$ ,  $\text{NO}_3^-$

Options :

1. ✘  $\text{CH}_3\text{COO}^- > \text{CH}_3\text{O}^- > \text{C}_6\text{H}_5\text{O}^- > \text{NO}_3^-$
2. ✘  $\text{CH}_3\text{O}^- > \text{NO}_3^- > \text{C}_6\text{H}_5\text{O}^- > \text{CH}_3\text{COO}^-$



3. ✓  $\text{CH}_3\text{O}^- > \text{C}_6\text{H}_5\text{O}^- > \text{CH}_3\text{COO}^- > \text{NO}_3^-$

4. ✗  $\text{C}_6\text{H}_5\text{O}^- > \text{CH}_3\text{O}^- > \text{NO}_3^- > \text{CH}_3\text{COO}^-$

Question Number : 68 Question Id : 27028218545 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

Correct Marks : 2 Wrong Marks : 0

What is the correct order of  $\lambda_{\text{max}}$  for  $n \rightarrow \sigma^*$  transition?

Options :

1. ✗  $\text{R-OH} > \text{R-NH}_2 > \text{R-SH}$

2. ✓  $\text{R-OH} < \text{R-NH}_2 < \text{R-SH}$

3. ✗  $\text{R-OH} > \text{R-SH} > \text{R-NH}_2$

4. ✗  $\text{R-OH} < \text{R-SH} < \text{R-NH}_2$

Question Number : 69 Question Id : 27028218546 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

Correct Marks : 2 Wrong Marks : 0

In which state of matter mass spectroscopy is being performed?

Options :

1. ✘ solid

2. ✘ liquid

3. ✔ gaseous

4. ✘ plasma

Question Number : 70 Question Id : 27028218547 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

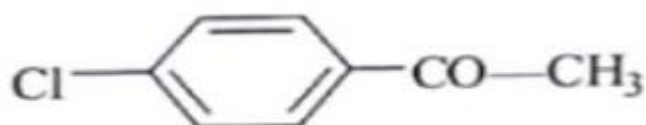
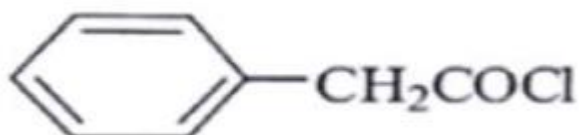
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

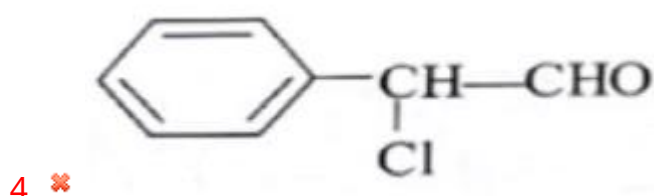
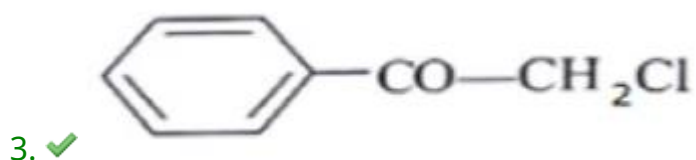
No

Correct Marks : 2 Wrong Marks : 0

A compound of molecular formula  $C_8H_7ClO$  shows a prominent band in its IR spectrum at  $1690\text{ cm}^{-1}$ .  $^1H$  NMR spectrum revealed only two major types of protons in the ratio of 5:2. Which one of the following structures best fits the above data?

Options :





Question Number : 71 Question Id : 27028218548 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

Why in the IR spectrum of Benzoyl chloride, a weak band near  $1750\text{ cm}^{-1}$  is formed?

Options :

1. ✘ Inductive effect
2. ✓ Fermi resonance between C = O band and first overtone
3. ✘ Conjugation effect
4. ✘ Hyperconjugation effect

Question Number : 72 Question Id : 27028218549 Question Type : MCQ Option Shuffling : No

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**  
**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**  
**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**  
**No**

**Correct Marks : 2 Wrong Marks : 0**

Cis- and trans- isomers are detected by

**Options :**

1. ✘ Lucas test
2. ✔ Kurnakov's test
3. ✘ Mulliken test
4. ✘ Ring test

**Question Number : 73 Question Id : 27028218550 Question Type : MCQ Option Shuffling : No**  
**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**  
**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**  
**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**  
**No**

**Correct Marks : 2 Wrong Marks : 0**

Write the multiplicity of the signals in  $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$  in NMR spectrum

**Options :**

1. ✘ two triplets
2. ✔ a triplet and a quartet

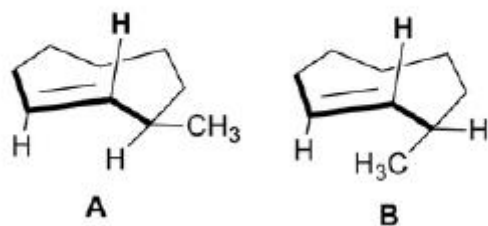
3. ✘ two singlets

4. ✘ two singlets and two triplets

Question Number : 74 Question Id : 27028218551 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

The relation between A and B is:



Options :

1. ✘ Homomers (indentical)

2. ✘ Enantiomers

3. ✔ Diastereomers

4. ✘ Conformers

Question Number : 75 Question Id : 27028218552 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Mc Lafferty rearrangement ion peak in mass spectrum is usually the basic peak for

Options :

1. ✘ aldehydes only
2. ✘ ketones only
3. ✘ acids (straight chain) only
4. ✔ aldehydes, ketones and acids ( straight chain)

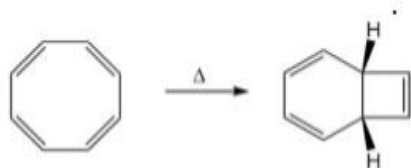
Question Number : 76 Question Id : 27028218553 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

For the following Electrocyclic reaction, choose the  $\pi$  system involved and rotation of p-orbitals.



Options :

1. ✘  $4\pi$ , Con-rotation

2. ✘  $4\pi$ , Dis-rotation

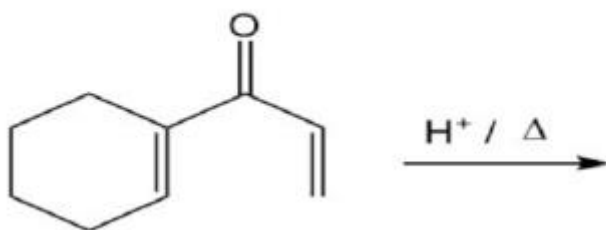
3. ✘  $6\pi$ , Con-rotation

4. ✔  $6\pi$ , Dis-rotation

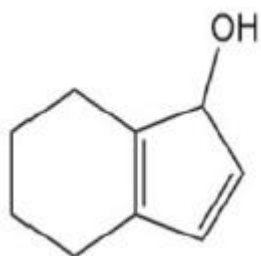
Question Number : 77 Question Id : 27028218554 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

Final product of the following reaction will be

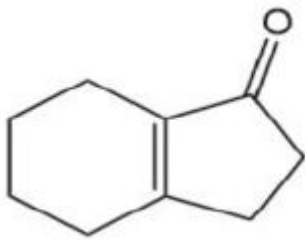


Options :

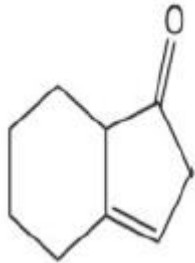


1. ✘

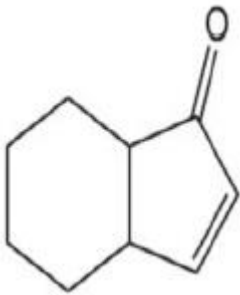
2. ✔



3. ✘



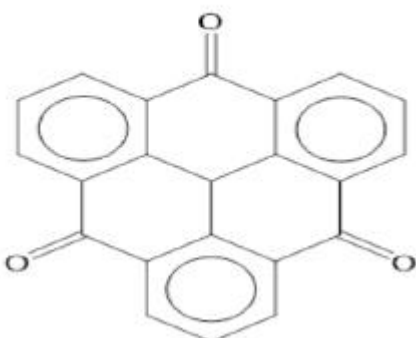
4. ✘



**Question Number : 78 Question Id : 27028218555 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is correct about the following compound?





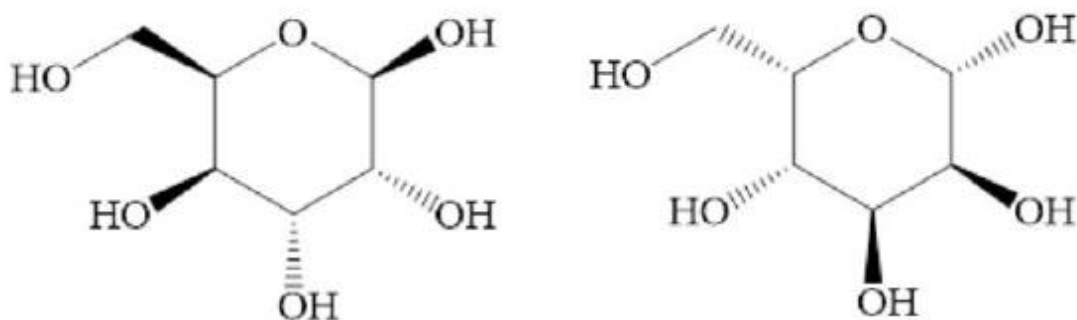
Options :

1. ✘ It possesses a centre of symmetry
2. ✘ It possesses a C<sub>4</sub> axis of symmetry
3. ✔ It possesses a plane of symmetry
4. ✘ Compound is chiral

Question Number : 79 Question Id : 27028218556 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

Following compounds are different in respect of



Options :

1. ✘ Their chemical and physical properties
2. ✘ Diastereomers

3. ✓ The direction in which they tend to rotate the plane polarized light

4. ✗ Their interactions with molecules

Question Number : 80 Question Id : 27028218557 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

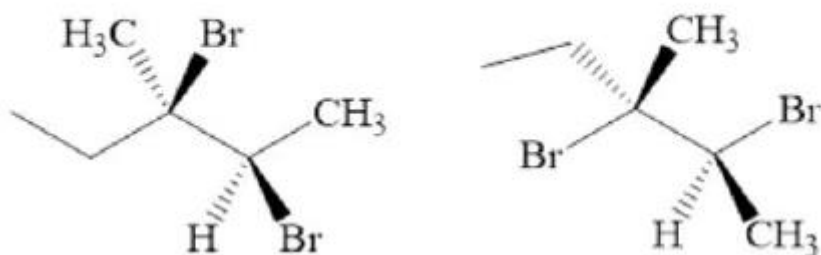
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

Correct Marks : 2 Wrong Marks : 0

How are the following compounds related?



Options :

1. ✓ Diastereomers

2. ✗ Enantiomers

3. ✗ Meso compounds

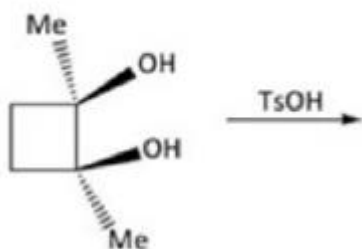
4. ✗ Identical

Question Number : 81 Question Id : 27028218558 Question Type : MCQ Option Shuffling : No

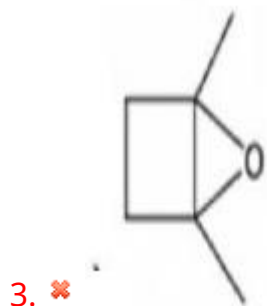
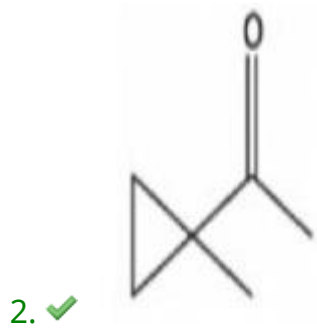
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

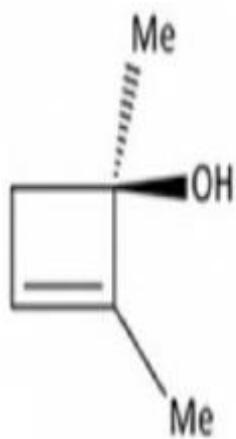
The major product formed in the following reaction is



Options :



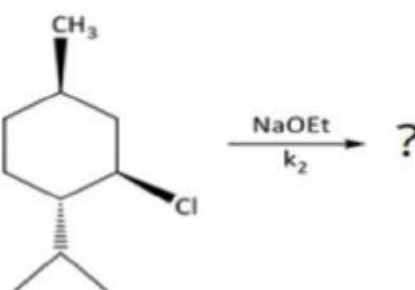
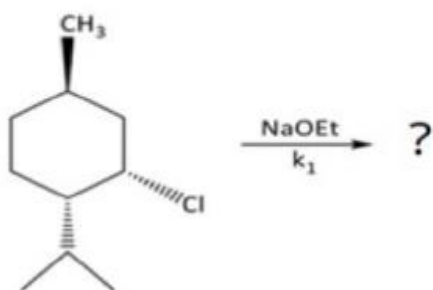
4. ✘



Question Number : 82 Question Id : 27028218559 Question Type : MCQ Option Shuffling : No  
 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
 Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
 Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
 No

Correct Marks : 2 Wrong Marks : 0

The total no. of products formed and the relation between  $k_1$  and  $k_2$  in the following reactions are



Options :

1. ✘ 2,  $k_1 > k_2$

2. ✔ 3,  $k_1 > k_2$

3. ✘ 2,  $k_1 < k_2$

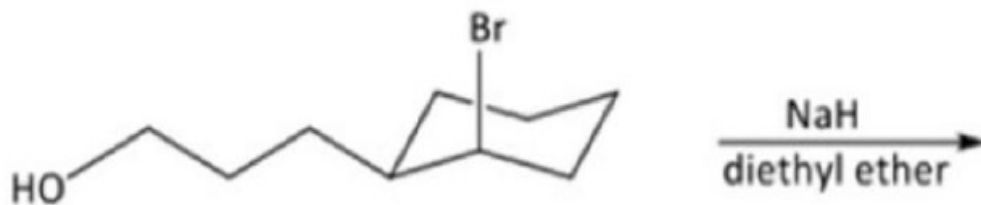
4. ✘

3,  $k_2 > k_1$

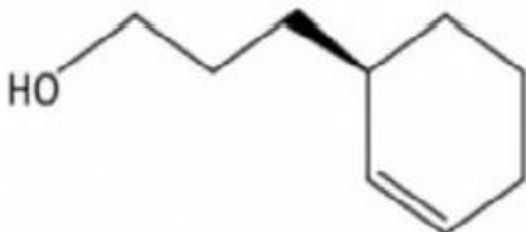
Question Number : 83 Question Id : 27028218560 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

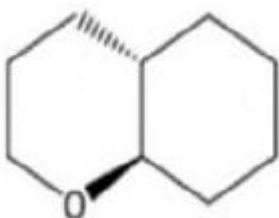
Mark the major product formed in the reaction given below.



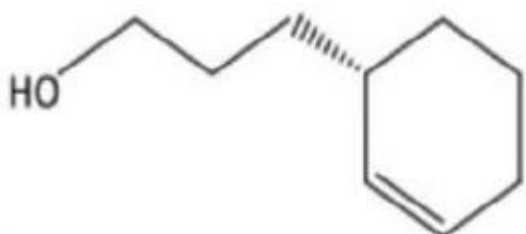
Options :



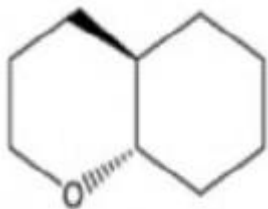
1. ✘



2. ✘



3. ✘

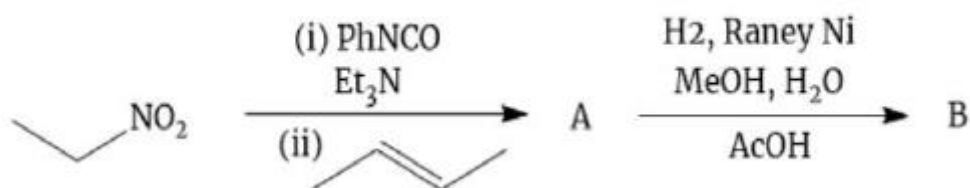


4. ✓

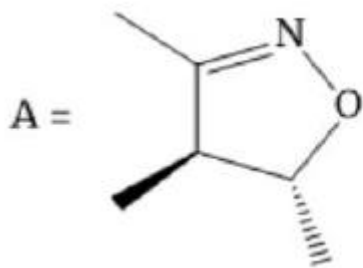
Question Number : 84 Question Id : 27028218561 Question Type : MCQ Option Shuffling : No  
 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
 Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
 Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
 No

Correct Marks : 2 Wrong Marks : 0

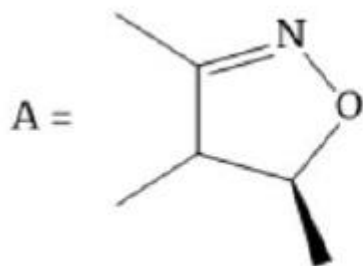
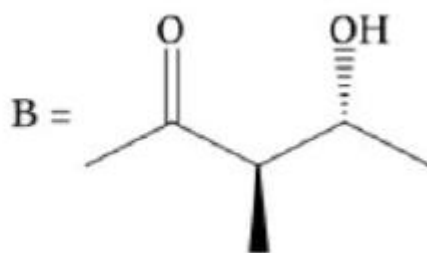
The major products A and B in the following reaction sequence are



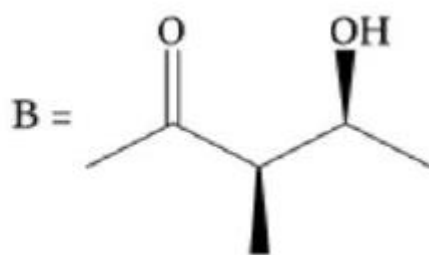
Options :



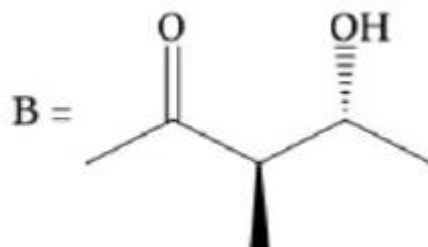
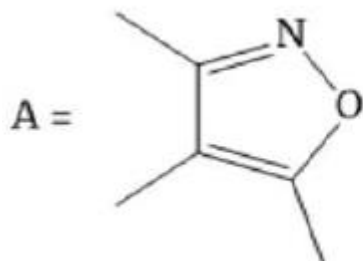
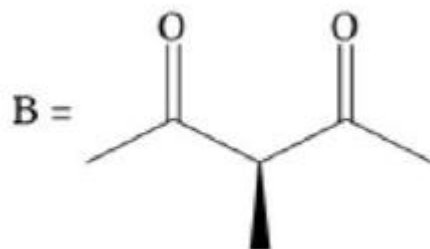
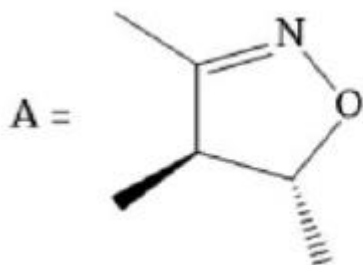
1. ✓



2. ✗



3. ✗

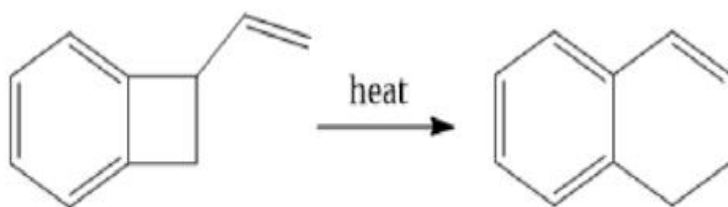


4. ✖

Question Number : 85 Question Id : 27028218562 Question Type : MCQ Option Shuffling : No  
 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
 Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
 Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
 No

Correct Marks : 2 Wrong Marks : 0

The following transformation proceeds through two consecutive electrocyclic processes, which are



Options :

1. ✖  $4\pi$  con and  $6\pi$  con

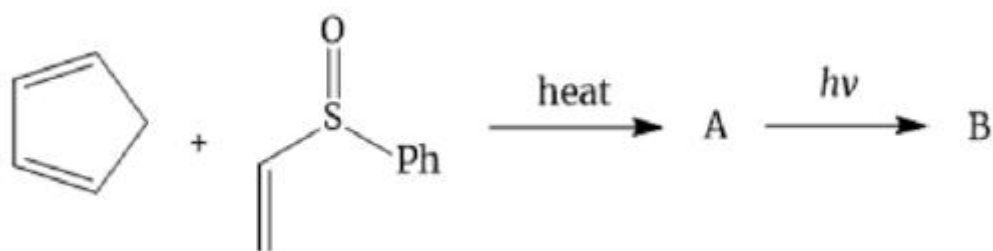
2. ✖  $4\pi$  dis and  $6\pi$  con

3. ✓  $4\pi$  con and  $6\pi$  dis

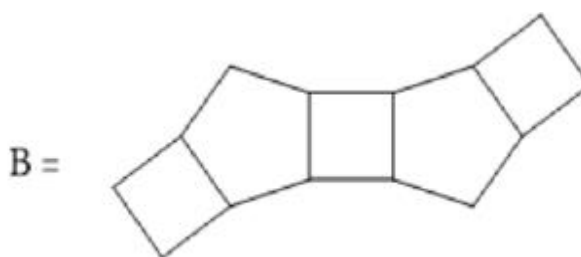
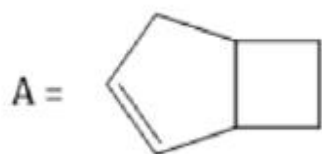
4. ✗  $4\pi$  dis and  $6\pi$  dis

Question Number : 86 Question Id : 27028218563 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0



Options :



2. ✗



3. ✓



4. ✘

A =



B =



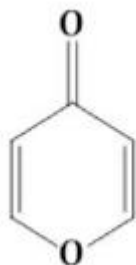
Question Number : 87 Question Id : 27028218564 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

Compound which is least reactive towards  $\text{LiAlH}_4$

Options :

1. ✘

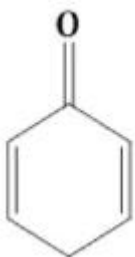


2. ✘



3. ✔



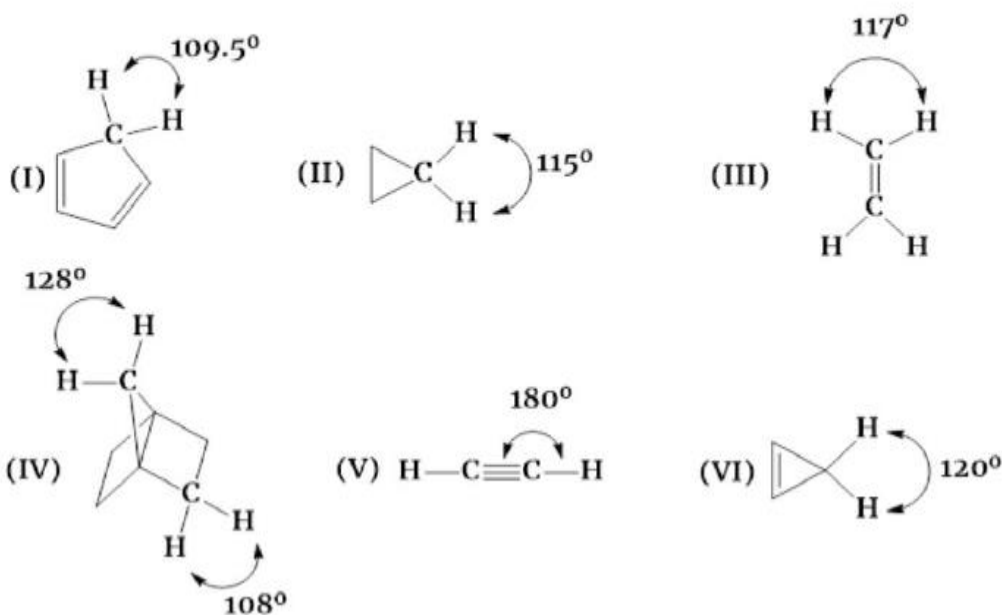


4. ✘

Question Number : 88 Question Id : 27028218565 Question Type : MCQ Option Shuffling : No  
 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
 Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
 Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
 No

Correct Marks : 2 Wrong Marks : 0

Selected bond angles for six hydrocarbons are shown below. Arrange these hydrocarbons according to their pKa values, from the lowest to the highest



Options :

1. ✘ VI < II < III < IV < V < I

2. ✘ V < IV < VI < III < II < I

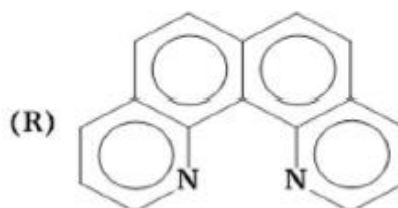
3. ✘ I < II < III < VI < IV < V

4. ✔ I < V < IV < III < II < VI

Question Number : 89 Question Id : 27028218566 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

Which of the following is the correct order of basic nature?



Options :

1. ✘ Q > R > P

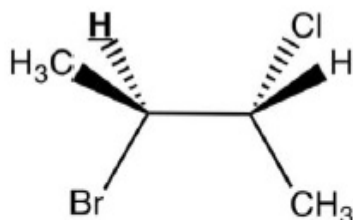
2. ✔ R > Q > P

3. ✘ R > P > Q

4. ✘ Q > P > R

Question Number : 90 Question Id : 27028218567 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0



In H-NMR, how many spectral lines will that bolded hydrogen be split into?

Options :

1. ✓ 8 lines (multiplet)

2. ✗ 4 lines (dd)

3. ✗ 6 lines (multiplet)

4. ✗ 4 lines (qt)

Question Number : 91 Question Id : 27028218568 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

In a saturated calomel electrode, the saturation is with respect to

**Options :**

1. ✘  $\text{Hg}_2\text{Cl}_2$

2. ✔  $\text{KCl}$

3. ✘  $\text{HgCl}_2$

4. ✘  $\text{AgCl}$

**Question Number : 92 Question Id : 27028218569 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

When 100 g of water is reversibly heated from  $50^\circ\text{C}$  to  $75^\circ\text{C}$  at 1 atm, the change in entropy ( $\text{JK}^{-1}$ ) of the universe is:

**Options :**

1. ✘  $-0.31$

2. ✘  $0.31$

3. ✔  $0$

4. ✘ 3.1

Question Number : 93 Question Id : 27028218570 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

The conductance at infinite dilution follows the order

Options :

1. ✘  $\text{Li}^+ > \text{Na}^+ > \text{K}^+$

2. ✘  $\text{Na}^+ > \text{Li}^+ > \text{K}^+$

3. ✘  $\text{K}^+ > \text{Li}^+ > \text{Na}^+$

4. ✔  $\text{K}^+ > \text{Na}^+ > \text{Li}^+$

Question Number : 94 Question Id : 27028218571 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

The correct order of the fundamental vibrational frequencies of the following diatomic  
molecules is:

Options :

1. ✓  ${}^1\text{H}^{35}\text{Cl} > {}^1\text{H}^{37}\text{Cl} > {}^2\text{D}^{35}\text{Cl}$

2. ✗  ${}^2\text{D}^{35}\text{Cl} > {}^1\text{H}^{37}\text{Cl} > {}^1\text{H}^{35}\text{Cl}$

3. ✗  ${}^1\text{H}^{37}\text{Cl} > {}^1\text{H}^{35}\text{Cl} > {}^2\text{D}^{35}\text{Cl}$

4. ✗  ${}^1\text{H}^{37}\text{Cl} > {}^2\text{D}^{35}\text{Cl} > {}^1\text{H}^{35}\text{Cl}$

**Question Number : 95 Question Id : 27028218572 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

An ideal gas is composed of particles of mass  $M$  in thermal equilibrium at a temperature  $T$  in one container. Another container contains ideal gas particles of mass  $2M$  at a temperature  $2T$ .

The correct statement about the two gases is-

**Options :**

1. ✗ Average kinetic energy and average speed will be same in the two cases

2. ✗ Both the averages will be doubled in the second case

3. ✓ Only the average kinetic energy will be doubled in the second case

4. ✗ Only the average speed will be doubled in the second case

Question Number : 96 Question Id : 27028218573 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

Match the metal given in Column A with its medicinal use as a compound in Column B.

Column A

Column B

- (a) Gd
- (b) Au
- (c) Pt
- (d) Li

- (1) Cancer
- (2) Maniac depression
- (3) MRI contrast agent
- (4) Arthritis
- (5)

Correct match is

Options :

1. ✘ a-2 b-3 c-4 d-1

2. ✘ a-4 b-2 c-1 d-3

3. ✔ a-3 b-4 c-1 d-2

4. ✘ a-1 b-2 c-3 d-4

Question Number : 97 Question Id : 27028218574 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No



**Correct Marks : 2 Wrong Marks : 0**

The point group obtained by adding symmetry operation  $\sigma_h$  to the point group  $C_4$  is

**Options :**

1. ✘  $S_4$

2. ✔  $C_{4h}$

3. ✘  $D_{2h}$

4. ✘  $D_4$

**Question Number : 98 Question Id : 27028218575 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

The correct match for the following is

List-I

List-II

(a) camphor

(1) structural protein

(b) insulin

(2) hormone

(c) Keratin

(3) enzyme

(4) steroid

(5) terpene

Codes:

**Options :**

1. ✘ a-1 b-3 c-5

2. ✓ a-5 b-2 c-1

3. ✗ a-4 b-3 c-1

4. ✗ a-5 b-2 c-4

**Question Number : 99 Question Id : 27028218576 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

The ionic strength of a solution containing 0.0008 M  $\text{AlCl}_3$  and 0.005 M  $\text{KCl}$  is

**Options :**

1. ✗ 0.134 M

2. ✓ 0.053 M

3. ✗ 0.106 M

4. ✗ 0.086 M

**Question Number : 100 Question Id : 27028218577 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**

No

Correct Marks : 2 Wrong Marks : 0

A constant motion of hydrogen atom in the presence of spin-orbit coupling is-

Options :

1. ✘ 1

2. ✘ s

3. ✔  $1+s$

4. ✘  $1-s$

Question Number : 101 Question Id : 27028218578 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

Correct Marks : 2 Wrong Marks : 0

The minimum work required by an engine to transfer 5 J of heat from a reservoir at 100 K to one at 300 K is:

Options :

1. ✘ 5 J

2. ✔ 10 J

3. ✘ 15 J

4. ✘ 20 J

**Question Number : 102 Question Id : 27028218579 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

For a certain magnetic field strength, a free proton spin transition occurs at 700 MHz. Keeping the magnetic field strength constant the  $^{14}\text{N}$  nucleus will resonate at. ( $g(\text{p})\approx 5.6$  and  $g(^{14}\text{N})\approx 0.4$ )

**Options :**

1. ✘ 700 MHz

2. ✘ 400 MHz

3. ✘ 200 MHz

4. ✔ 50 MHz

**Question Number : 103 Question Id : 27028218580 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

The stability of lyophobic colloids is a consequence of the:

**Options :**

1. ✓ electrical double layer at the surface of the particles
2. ✗ van der Waals force between the particles
3. ✗ small particle size
4. ✗ shape of the particles

**Question Number : 104 Question Id : 27028218581 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**

**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**

**No**

**Correct Marks : 2 Wrong Marks : 0**

The molecule that will show Raman spectrum, but not IR spectrum, among the following is:

**Options :**

1. ✓  $H_2$
2. ✗  $HCl$
3. ✗  $BrCl$
4. ✗  $CS_2$

Question Number : 105 Question Id : 27028218582 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

The term symbol for the ground state of a metal ion is  $^3P_2$ . The residual entropy of a crystal of a salt of this metal ion at 0 K is:

Options :

1. ✘  $k_B \ln 1$

2. ✘  $k_B \ln 3$

3. ✔  $k_B \ln 5$

4. ✘  $k_B \ln 7$

Question Number : 106 Question Id : 27028218583 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

The separation of the (123) planes of an orthorhombic unit cell is 3.12 nm.  
The separation of (246) and (369) planes are, respectively,

Options :

1. ✓ 1.56 nm and 1.04 nm
2. ✗ 1.04 nm and 1.56 nm
3. ✗ 3.12 nm and 1.50 nm
4. ✗ 1.04 nm and 3.12 nm

**Question Number : 107 Question Id : 27028218584 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No**

**Correct Marks : 2 Wrong Marks : 0**

The change in entropy for a reversible adiabatic process is-

**Options :**

1. ✗ Maximum
2. ✗ Minimum
3. ✓ Zero
4. ✗ Positive

Question Number : 108 Question Id : 27028218585 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

Origin of the colligative properties of a dilute solution is-

Options :

1. ✘ volatility of solute molecule
2. ✘ interaction of solute-solvent molecules
3. ✘ zero enthalpy of mixing
4. ✔ entropy of mixing

Question Number : 109 Question Id : 27028218586 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

The number of lines in EPR spectrum of  $\text{CD}_3$  ( $I_D=1$ ) is-

Options :

1. ✘ 3
2. ✘ 5



3. ✓ 7

4. ✘ 9

**Question Number : 110 Question Id : 27028218587 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No**

**Correct Marks : 2 Wrong Marks : 0**

Root mean square speed of the molecules of a perfect gas is proportional to-

**Options :**

1. ✘  $1/T^{1/2}$

2. ✘  $T$

3. ✓  $T^{1/2}$

4. ✘  $1/T$

**Question Number : 111 Question Id : 27028218588 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following molecules in order of increasing fundamental vibrational frequencies:

**Options :**

1. ✓  $O_2^{2-} < O_2^- < O_2 < O_2^+$

2. ✗  $O_2 < O_2^+ < O_2^- < O_2^{2-}$

3. ✗  $O_2^{2-} < O_2^- < O_2^+ < O_2$

4. ✗  $O_2^+ < O_2 < O_2^- < O_2^{2-}$

**Question Number : 112 Question Id : 27028218589 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**

**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**

**No**

**Correct Marks : 2 Wrong Marks : 0**

The translational partition function for Ar confined to a volume of 1 L at 300 K, having thermal wavelength of  $1.60 \times 10^{-11}$  m, is closest to

**Options :**

1. ✗  $24.4 \times 10^{29}$

2. ✓  $2.44 \times 10^{29}$

3. ✗  $0.244 \times 10^{29}$

4. ✘  $244 \times 10^{29}$

**Question Number : 113 Question Id : 27028218590 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

Entropy of a perfect gas is-

**Options :**

1. ✘ Independent of V

2. ✘ Proportional to V

3. ✔ Proportional to  $\ln V$

4. ✘ Proportional to  $V^2$

**Question Number : 114 Question Id : 27028218591 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

The formation constant of the complexation of  $M^+$  ( $M = \text{Li, Na, K and Cs}$ ) with cryptand, C222 follows the order-

**Options :**

1. ✓  $\text{Li}^+ < \text{Cs}^+ < \text{Na}^+ < \text{K}^+$

2. ✗  $\text{Li}^+ < \text{Na}^+ < \text{K}^+ < \text{Cs}^+$

3. ✗  $\text{K}^+ < \text{Cs}^+ < \text{Li}^+ < \text{Na}^+$

4. ✗  $\text{Cs}^+ < \text{K}^+ < \text{Li}^+ < \text{Na}^+$

**Question Number : 115 Question Id : 27028218592 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

The degeneracy of an excited state of a particle in 3-dimensional cubic box with energy 3 times its ground state energy is-

**Options :**

1. ✓ 3

2. ✗ 2

3. ✗ 1

4. ✗ 4

**Question Number : 116 Question Id : 27028218593 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**  
**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**  
**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**  
**No**

**Correct Marks : 2 Wrong Marks : 0**

The numbers of lines shown by the  $\text{BH}_3$  part of the molecule  $\text{Ph}_3\text{P} \cdot ^{11}\text{BH}_3$  in the  $^1\text{H}$  and  $^{11}\text{B}$  NMR spectra are, respectively [ $I(^{11}\text{B})=3/2$ ;  $I(^{31}\text{P})= 1/2$ ]

**Options :**

1. ✓ 8 and 8

2. ✗ 4 and 8

3. ✗ 3 and 6

4. ✗ 6 and 3

**Question Number : 117 Question Id : 27028218594 Question Type : MCQ Option Shuffling : No**  
**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**  
**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**  
**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**  
**No**

**Correct Marks : 2 Wrong Marks : 0**

In human body cis-platin hydrolyzes to a diaqua complex and modifies the DNA structure by binding to-

**Options :**

1. ✓ N-atom of guanine base

2. ✘ O-atom of cytosine base

3. ✘ N-atom of adenine base

4. ✘ O-atom of thymine base

**Question Number : 118 Question Id : 27028218595 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No**

**Correct Marks : 2 Wrong Marks : 0**

Heating a sample of  $[(\eta^5\text{-C}_5\text{H}_5)\text{Mo}(\text{CO})_3]_2$  results in the formation of  $[(\eta^5\text{-C}_5\text{H}_5)\text{Mo}(\text{CO})_2]_2$  with elimination of 2 equivalents of CO. The Mo-Mo bond order in this reaction changes from-

**Options :**

1. ✘ 2 to 3

2. ✘ 1 to 2

3. ✔ 1 to 3

4. ✘ 2 to 4

**Question Number : 119 Question Id : 27028218596 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

For  $[\text{Ce}(\text{NO}_3)_4(\text{OPPh}_3)_2]$ , from the following

- (a) Its aqueous solution is yellow-orange in colour
- (b) Coordination number of Ce is ten
- (c) It shows metal to ligand charge transfer
- (d) It is diamagnetic in nature

The correct answer is

Options :

- 1. ✘ (a) and (b)
- 2. ✘ (a) and (c)
- 3. ✔ (a), (b) and (d)
- 4. ✘ (b), (c) and (d)

Question Number : 120 Question Id : 27028218597 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The geometry of  $[\text{ReH}_9]^{2-}$  is-

Options :

- 1. ✘ Monocapped square antiprism

2. ✘ Monocapped cube
3. ✔ Tricappedtrigonal prism
4. ✘ Heptagonal bipyramid

**Question Number : 121 Question Id : 27028218598 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

The spectroscopic ground state term symbols for the octahedral aqua complexes of Mn(II), Cr(III) and Cu(II) respectively, are

**Options :**

1. ✘  ${}^2H, {}^4F$  and  ${}^2D$
2. ✔  ${}^6S, {}^4F$  and  ${}^2D$
3. ✘  ${}^2H, {}^2H$  and  ${}^2D$
4. ✘  ${}^6S, {}^4F$  and  ${}^2P$

**Question Number : 122 Question Id : 27028218599 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**



Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Addition of two electrons to the bismuth cluster  $\text{Bi}_5^{3+}$  results in a change of structure type from:

Options :

1. ✓ Closo to nido
2. ✗ Nido to arachno
3. ✗ Closo to arachno
4. ✗ Arachno to hypo

Question Number : 123 Question Id : 27028218600 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The number of bonding molecular orbitals and the number of available skeletal electrons in  $[\text{B}_6\text{H}_6]^{2-}$ , respectively, are:

Options :

1. ✓ 7 and 14
2. ✗ 6 and 12
3. ✗

18 and 12

4. ✘ 11 and 14

Question Number : 124 Question Id : 27028218601 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

$(R_3Ge)_2$  on photolysis gives a radical which shows ESR spectrum. The ESR signals carrying the signature of  $^{73}Ge$  ( $I=9/2$ ) are in terms of:

Options :

1. ✘ Nine lines

2. ✔ Ten lines

3. ✘ Two lines

4. ✘ One line

Question Number : 125 Question Id : 27028218602 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

To determine the bond parameters at 25°C, electron diffraction is generally unsuitable for both.

**Options :**

1. ✘ O<sub>3</sub> and NO<sub>2</sub>
2. ✔ Sulfur and dry ice
3. ✘ NO<sub>2</sub> and sulphur
4. ✘ O<sub>3</sub> and dry ice

**Question Number : 126 Question Id : 27028218603 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**

**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**

**No**

**Correct Marks : 2 Wrong Marks : 0**

Among the following, species isolabal to CH<sub>2</sub> are:

- (1) CpCr(CO)<sub>2</sub>
- (2) CpCu
- (3) Ni(CO)<sub>2</sub>
- (4) Cr(CO)<sub>4</sub>
- (5) Fe(CO)<sub>4</sub>

**Options :**

1. ✘ 1, 3 and 5
2. ✘ 2, 3 and 4

3. ✓ 2, 3 and 5

4. ✗ 1, 2 and 4

**Question Number : 127 Question Id : 27028218604 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

According to Bent's rule, for P-block elements, the correct combination of geometry around the central atom and position of more electronegative substituent is:

**Options :**

1. ✓ Trigonalbipyramidal and axial

2. ✗ Trigonalbipyramidal and equatorial

3. ✗ Square pyramidal and axial

4. ✗ Square pyramidal and basal

**Question Number : 128 Question Id : 27028218605 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

In fission of  $^{235}\text{U}$  atom the energy released is 200 MeV. In one day fission of 1 Kg  $^{235}\text{U}$  will give power (in MW) approximately-

**Options :**

1. ✘ 550

2. ✘ 650

3. ✔ 950

4. ✘ 1250

**Question Number : 129 Question Id : 27028218606 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

Match fluorescence colours given in column A with lanthanide ions given in column B-

Column A

Column B

- (i) Pink
- (ii) Red
- (iii) Green
- (iv) Blue

- (a) Sm(III)
- (b) Tb(III)
- (c) Eu(III)
- (d) Tm(III)

Correct match is-

**Note: For this question, discrepancy is found in question/answer. Full Marks is being awarded to all candidates.**

**Options :**

1. (i) - (a) (ii) - (c) (iii) - (b) (iv) - (d)

2. (i) - (d) (ii) - (c) (iii) - (b) (iv) - (a)

3. (i) - (a) (ii) - (b) (iii) - (c) (iv) - (d)

4. (i) - (c) (ii) - (b) (iii) - (d) (iv) - (a)

**Question Number : 130 Question Id : 27028218607 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

The correct order of C-O bond length is

**Options :**

1. ✘  $\text{H}_3\text{B-CO} > [\text{Mn}(\text{CO})_6]^+ > [\text{Cr}(\text{CO})_6] > [\text{V}(\text{CO})_6]^-$

2. ✔  $[\text{V}(\text{CO})_6]^- > [\text{Cr}(\text{CO})_6] > [\text{Mn}(\text{CO})_6]^+ > \text{H}_3\text{B-CO}$

3. ✘  $[\text{Mn}(\text{CO})_6]^+ > \text{H}_3\text{B-CO} > [\text{V}(\text{CO})_6]^- > [\text{Cr}(\text{CO})_6]$

4. ✘  $[\text{Cr}(\text{CO})_6] > [\text{V}(\text{CO})_6]^- > \text{H}_3\text{B-CO} > [\text{Mn}(\text{CO})_6]^+$

Question Number : 131 Question Id : 27028218608 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

The correct order of acceptor ability of the phosphorus ligands is

Options :

1. ✘  $\text{PMe}_3 > \text{PPh}_3 > \text{P(OPh)}_3 > \text{PF}_3$

2. ✔  $\text{PF}_3 > \text{P(OPh)}_3 > \text{PPh}_3 > \text{PMe}_3$

3. ✘  $\text{PF}_3 > \text{PMe}_3 > \text{PPh}_3 > \text{P(OPh)}_3$

4. ✘  $\text{P(OPh)}_3 > \text{PF}_3 > \text{PMe}_3 > \text{PPh}_3$

Question Number : 132 Question Id : 27028218609 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

The standard reduction potentials in acid medium for  $\text{F}_2$ ,  $\text{Cl}_2$ , Na and Zn are in the order

Options :

1. ✘  $\text{F}_2 > \text{Cl}_2 > \text{Na} > \text{Zn}$

2. ✓  $F_2 > Cl_2 > Zn > Na$

3. ✗  $Na > Zn > Cl_2 > F_2$

4. ✗  $Cl_2 > F_2 > Zn > Na$

**Question Number : 133 Question Id : 27028218610 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

Match the items given in Column I with those given in Column II-

Column I	Column II
(a) Magic number	(i) Nuclear fission
(b) Liquid drop model of nucleus	(ii) Q-value
(c) Actinides	(iii) Radioactivity
(d) Threshold energy	(iv) Shell model of nucleus

The correct match is

**Options :**

1. ✓ a-iv; b-i; c-iii; d-ii

2. ✗ a-ii; b-i; c-iii; d-iv

3. ✗ a-iii; b-iv; c-i; d-ii

4. ✗ a-iv; b-iii; c-i; d-ii



Question Number : 134 Question Id : 27028218611 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

For the reaction of trans-[IrX(CO)(PPh<sub>3</sub>)<sub>2</sub>] (X = F, Cl, Br, I) with O<sub>2</sub>, correct order of variation  
of rate with X is:

Options :

1. ✘ Br > I > F > Cl
2. ✘ F > Cl > Br > I
3. ✘ F ≈ Cl ≈ Br ≈ I
4. ✔ I > Br > Cl > F

Question Number : 135 Question Id : 27028218612 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

The order of increasing Bronsted acidity for boron hydrides is-

Options :

1. ✔ B<sub>5</sub>H<sub>9</sub> < B<sub>6</sub>H<sub>10</sub> < B<sub>10</sub>H<sub>14</sub>

2. ✘  $B_{10}H_{14} < B_5H_9 < B_6H_{10}$

3. ✘  $B_6H_{10} < B_{10}H_{14} < B_5H_9$

4. ✘  $B_{10}H_{14} < B_6H_{10} < B_5H_9$

**Question Number : 136 Question Id : 27028218613 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

Deoxy-hemocyanin is

**Options :**

1. ✘ heme protein and paramagnetic

2. ✔ colorless and diamagnetic

3. ✘  $O_2$  transporter and paramagnetic

4. ✘ blue colored and diamagnetic

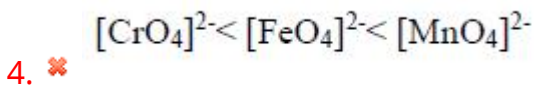
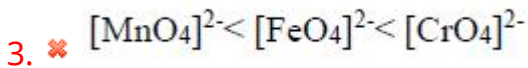
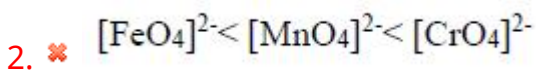
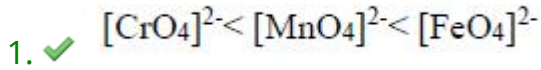
**Question Number : 137 Question Id : 27028218614 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The oxidizing power of  $[\text{CrO}_4]^{2-}$ ,  $[\text{MnO}_4]^{2-}$  and  $[\text{FeO}_4]^{2-}$  follows the order

Options :



Question Number : 138 Question Id : 27028218615 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The number of microstates present in  $^3\text{F}$  term is

Options :

1. ✗ 3

2. ✓ 21

3. ✘ 9

4. ✘ 28

**Question Number : 139 Question Id : 27028218616 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No**

**Correct Marks : 2 Wrong Marks : 0**

The numbers of P-S and P-P bonds in the compound  $P_4S_3$  are respectively

**Options :**

1. ✔ 6 and 3

2. ✘ 4 and 3

3. ✘ 3 and 6

4. ✘ 6 and 2

**Question Number : 140 Question Id : 27028218617 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No**

**Correct Marks : 2 Wrong Marks : 0**

Character table for the point group  $C_{2v}$  is given below:

$C_{2v}$	E	$C_2$	$\sigma_v(XZ)$	$\sigma_v(YZ)$		
$A_1$	1	1	1	1	Z	$X^2, Y^2, Z^2$
$A_2$	1	1	-1	-1	$R_Z$	XY
$B_1$	1	-1	1	-1	X, $R_Y$	XZ
$B_2$	1	-1	-1	1	Y, $R_X$	YZ

The reducible representation corresponding to the three translational degrees of freedom,  $\tau_T$

**Options :**

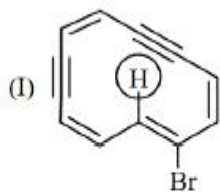
1. ✘ 3,1,1,1
2. ✔ 3,-1,1,1
3. ✘ 3,-1,-1,-1
4. ✘ 3,1,-1,-1

**Question Number : 141 Question Id : 27028218618 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No Correct Marks : 2 Wrong Marks : 0**

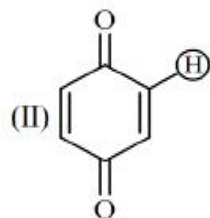
The correct match of the circled protons in Column P with  $^1\text{H}$  NMR chemical shift ( $\delta$  ppm) in Column Q is

Column-P

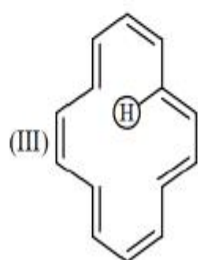
Column-Q



(A) 6.72



B 16.4



C -0.61

Options :

1. ✘ I-A ; II-B; III-C

2. ✔ I-B; II-A; III-C

3. ✘ I-B; II-C; III-A

4. ✘ I-C; II-B; III-A

Question Number : 142 Question Id : 27028218619 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

**Correct Marks : 2 Wrong Marks : 0**

Helmholtz model represents \_\_\_\_\_ model

**Options :**

1. ✘ diffused layer
2. ✔ fixed layer
3. ✘ half diffused and half fixed layer
4. ✘ Electrophoresis

**Question Number : 143 Question Id : 27028218620 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On**

**Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :**

**No**

**Correct Marks : 2 Wrong Marks : 0**

For the molecule  $\text{CBr}_4$ , the number of peaks which comprise the cluster for the molecular ion will be one of the following:

**Options :**

1. ✘ 1:1:1:1:1
2. ✘ 1:2:2:2:1
3. ✔ 1:4:6:4:1
- 4.

✖ 1:3:4:3:1

**Question Number : 144 Question Id : 27028218621 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

In the mass spectrum of the molecule phenol,  $C_6H_5OH$ , the approximate intensity of the peak at  $m/z$  95, relative to the molecular ion at 94 will be one of the following:

**Options :**

1. ✖ 94%

2. ✖ 6.6%

3. ✖ 10.0%

4. ✔ 7.0%

**Question Number : 145 Question Id : 27028218622 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No**

**Correct Marks : 2 Wrong Marks : 0**

For a substance which absorbs light (in the visible region) with wavelength  $\lambda = 550$  nm, the corresponding energy absorbed by 1 mole of material corresponds to one of the following:



**Options :**

1. ✘ 90 kJ
2. ✘ 200 J
3. ✔ 196 kJ
4. ✘ 315 kJ

**Question Number : 146 Question Id : 27028218623 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No**

**Correct Marks : 2 Wrong Marks : 0**

Identify the correct statements from the following:

- (i)  $\text{H}_2\text{O}$  belongs to Abelian group.
- (ii)  $\text{NH}_3$  belongs to non- Abelian group
- (iii) The point group of  $\text{BF}_3$  is  $\text{C}_{3h}$

**Options :**

1. ✔ (i) and (ii) only
2. ✘ (i) and (iii) only
3. ✘ (ii) and (iii) only

4. ✘ (i), (ii) and (iii)

Question Number : 147 Question Id : 27028218624 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No  
Correct Marks : 2 Wrong Marks : 0

Which of the following molecule has  $S_4$  symmetry elements?

Options :

1. ✘  $CO_2$

2. ✘  $H_2O$

3. ✘  $NH_3$

4. ✔  $CH_4$

Question Number : 148 Question Id : 27028218625 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No  
Correct Marks : 2 Wrong Marks : 0

What is the order (h) of  $C_{3v}$  point group?

Options :

1. ✘ 2

2. ✘ 4

3. ✔ 6

4. ✘ 8

Question Number : 149 Question Id : 27028218626 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

Correct Marks : 2 Wrong Marks : 0

How many symmetry elements are present in the molecule,  $CHClFBr$ ?

Options :

1. ✘ 4

2. ✘ 3

3. ✘ 2

4. ✔ 1

Question Number : 150 Question Id : 27028218627 Question Type : MCQ Option Shuffling : No  
Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A  
Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On  
Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :  
No

Correct Marks : 2 Wrong Marks : 0

The symmetry elements present in  $C_{2v}$  point group are:

Options :

1. ✘ E and  $C_2$  only
2. ✔ E,  $C_2$  and  $2\sigma_v$  only
3. ✘ E,  $C_2$  and  $\infty\sigma_v$  only
4. ✘ E,  $C_2$ ,  $2\sigma_v$  and i