

Andhra Pradesh State Council of Higher Education

Question Paper Name: CHEMICAL SCIENCES
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CHEMICAL SCIENCES

Group Number : 1
Group Id : 6232174
Group Maximum Duration : 0
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Revisit allowed for edit? : No
Break time: 0
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Revisit allowed for group Instructions? : Yes
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Teaching and Research Aptitude

Section Id : 6232177
Section Number : 1
Section type : Online
Mandatory or Optional: Mandatory
Number of Questions: 82
Number of Questions to be attempted: 82
Section Marks: 90
Display Number Panel: Yes
Group All Questions: No

Sub-Section Number: 1
Sub-Section Id: 62321719
Question Shuffling Allowed : Yes

Question Number : 1 Question Id : 623217544 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical Wrong Marks : 0

Discussion method can be used when

Options :

1. the topic is different
2. the topic is easy
3. the topic is very difficult
4. the topic is known

Question Number : 2 Question Id : 623217545 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following is not a teaching aid?

Options :

1. 16 mm film projector
2. Working model of photosynthesis
3. Tape records
4. Computer system

Question Number : 3 Question Id : 623217546 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The quality of teaching is reflected

Options :

1. by the quality questions asked by students
2. by the duration of sentence maintained in the class
3. by the pass percentage of students

by the attendance of students in the class

4.

Question Number : 4 Question Id : 623217547 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The detention system in primary schools may reflect the

Options :

1. pass rate in the classroom
2. absenteeism of students
3. drop-out rate increase
4. disinterest among the students

Question Number : 5 Question Id : 623217548 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The team teaching has the potential to develop

Options :

1. the habit of supplementary teaching of each other
2. competitive spirit among students
3. co-operation among the students
4. highlighting the gaps in each other's teaching

Question Number : 6 Question Id : 623217549 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

In open learning system, the teacher's role is to

Options :

1. guide the students of their interest
2. supply material needed
3. give coaching through a centre
4. leave the students to learn on their own

Question Number : 7 Question Id : 623217550 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

One of the most powerful factors affecting teaching is related to

Options :

1. prevailing political situation
2. economic status of the student
3. social system of the country
4. education system

Question Number : 8 Question Id : 623217551 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

In which teaching method learner's participation is made optional and pro-active?

Options :

1. Project method
2. Buzz session
3. Discussion method

Brain storming session

4.

Question Number : 9 Question Id : 623217552 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Effectiveness of teaching has to be judged in terms of

Options :

1. student's interest
2. learning outcomes
3. course coverage
4. use of teaching aids in the classroom

Question Number : 10 Question Id : 623217553 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Formulation of hypothesis may not be necessary in

Options :

1. normative studies
2. experimental studies
3. historical studies
4. survey studies

Question Number : 11 Question Id : 623217554 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The information about population is called a parameter while the information corresponding to a sample is called

Options :

1. Inference
2. Universe
3. Sampling design
4. Statistic

Question Number : 12 Question Id : 623217555 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

Reliability of a research result implies its

Options :

1. usefulness
2. uniqueness
3. verifiability
4. validity

Question Number : 13 Question Id : 623217556 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

A good researcher lays his hands on

Options :

1. any area of his interest
2. many areas and tries to understand them at basic level
3. a specific area and tries to study it in great details

4. a specific area and tries to study it in minute details

Question Number : 14 Question Id : 623217557 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The usual sequence of steps in doing action research is

Options :

1. reflect, observe, plan, act

2. plan, act, observe, reflect

3. plan, reflect, observe, act

4. act, observe, plan, reflect

Question Number : 15 Question Id : 623217558 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which one of the following is a non-probabilistic method of sampling?

Options :

1. Stratified sampling

2. Purposive sampling

3. Systematic sampling

4. Simple random sampling

Question Number : 16 Question Id : 623217559 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The appropriate sequence of steps of research that a researcher has to follow is

- A) Collection of data
- B) Listing of the objectives of research
- C) Methodology to be adopted
- D) Data analysis
- E) Results and discussion
- F) Identification of the research problem

Options :

1. F, C, B, D, A, E

2. F, B, A, D, C, E

3. F, A, B, C, D, E

4. F, B, C, A, D, E

Question Number : 17 Question Id : 623217560 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The research stream that has an immediate application is

Options :

1. Action research

2. Empirical research

3. Fundamental research

4. Experimental research

Question Number : 18 Question Id : 623217561 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Ethical norms in research do not involve guidelines for

Options :

1. patenting policy
2. data sharing policy
3. copy right policy
4. format of thesis

Sub-Section Number:	2
Sub-Section Id:	62321720
Question Shuffling Allowed :	Yes

Question Id : 623217562 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (19 to 27)

Question Label : Comprehension

Read the following passage and answer the questions given:

Education and ambition by themselves would have taken people nowhere without an expanding economy. Perhaps, even, the expanding economy explained the shift in Indian education. For Pravas, an engineer, the expansion had started some time before independence, when the old British emphasis on law and order (especially after the Indian Mutiny of 1857) had been modified by the idea of development.

Many people were sucked into that process. There was an explosive growth in India around 1930. It built momentum around 1947, had a big growth thereafter, and is now slowing down. In 1962, when I was thinking of universities and a career, I had a choice of professions and institutions. People today have to struggle hard. But these things have a positive side.

‘The average aspiration of the Indian is to grow under a shadow-and this is all right as long as someone else throws the shadow. In concrete terms, this means you look for employment, you try to get into structures created by other people. That’s how we got governed in the first place. The attitude is “As long as the local environment is the same, I don’t care who is running things at the top”. I read something in a paper some time ago. It was to the effect that, before the British came to India, the Indians were like bees in a garden. And that’s fine as long as someone else looked after the garden. And of course the Britishers became both the owners of the garden and the gardeners, the *malis* – with those other guys, the bees, going happily from flower to flower’.

‘What about the positive side of the struggle today?’

‘That shadow area I talked about is becoming congested now. It is forcing people to go out on their own. It is forcing them to be entrepreneurial.’

Sub questions

Question Number : 19 Question Id : 623217563 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

What is fundamental for the growth of a nation?

Options :

1. Education
2. Ambition
3. Economy
4. Law and order

Question Number : 20 Question Id : 623217564 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

What did the British emphasize on after the Indian Mutiny of 1857?

Options :

1. The idea of development
2. Law and order
3. Ancient Indian model of education
4. Expansion of the Empire

Question Number : 21 Question Id : 623217565 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

When did choice of professions and institutions become comparatively easier?

Options :

1. After 1857
2. Around 1962
3. Around 1930

After 1947

4.

Question Number : 22 Question Id : 623217566 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

What is the average aspiration of the Indian?

Options :

Employment in structures created by other people

1.

To be governed by the British

2.

Expanding economy

3.

Self employment

4.

Question Number : 23 Question Id : 623217567 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

According to the passage, what is the concern of Indians?

Options :

The rulers at the helm of affairs

1.

Newspaper items

2.

Engineering education

3.

Local environment

4.

Question Number : 24 Question Id : 623217568 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Who are compared to bees in a garden?

Options :

1. The British officers
2. The Indians
3. The gardeners
4. Owners of the garden

Question Number : 25 Question Id : 623217569 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

Who become the owners of the garden and the gardeners?

Options :

1. Only the bees
2. The Indians
3. Only the flowers
4. The Britishers

Question Number : 26 Question Id : 623217570 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

What is the positive side of the struggle?

Options :

1. Indian find shelter
2. Indians love green gardens
3. Indians are forced to be entrepreneurial

4. Indians could freely roam around

Question Number : 27 Question Id : 623217571 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

What do you understand by “That shadow area is becoming congested now”?

Options :

1. Densely populated
2. Heavy competition for employment in structures created by other people
3. Shadow becomes darker
4. Thinly populated

Sub-Section Number:	3
Sub-Section Id:	62321721
Question Shuffling Allowed :	Yes

Question Number : 28 Question Id : 623217572 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The non-verbal communication is also known as

Options :

1. Speaking communication
2. Verbal communication
3. Body language
4. Interpersonal communication

Question Number : 29 Question Id : 623217573 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The communication about the relationship among people is called

Options :

1. Interpersonal communication
2. Meta-communication
3. Speaking communication
4. Media communication

Question Number : 30 Question Id : 623217574 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Communication with touch behaviour called

Options :

1. Aesthetics
2. Proximics
3. Eugenics
4. Haptics

Question Number : 31 Question Id : 623217575 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Effective communication involves

Options :

1. One-way process
2. Two-way communication

3. Two-way communication with feedback

4. Two-way communication and Two-way communication with feedback

Question Number : 32 Question Id : 623217576 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

One of the following is not related to communication cycle.

Options :

1. Sender

2. Message

3. Channel

4. Noise

Question Number : 33 Question Id : 623217577 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

“With words we govern peoples”, said by

Options :

1. John Dewey

2. Benjamin Disrael

3. Rufford Murdock

4. Mc Greger

Question Number : 34 Question Id : 623217578 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The number of ingredients involved in the Aristotle's model of communication are

Options :

1. 5
2. 4
3. 3
4. 2

Question Number : 35 Question Id : 623217579 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

'Shared Experience' is considered to be a key element in communication emphasised by

Options :

1. John Dewey
2. Aristotle
3. David Berlo
4. John Locke

Question Number : 36 Question Id : 623217580 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The 'Nobel' style of communication is on one of the following elements.

Options :

1. Rehetoric
2. Non-assertion

Persuasion

3.

Authority

4.

Question Number : 37 Question Id : 623217581 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following numbers have a pattern. Identify the pattern and fill the blank.

165, 195, 255, 285, _____.

Options :

345

1.

365

2.

395

3.

435

4.

Question Number : 38 Question Id : 623217582 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following words have a pattern. Identify the pattern and fill the blank.

CDJP, EEIQ, GFGS, _____, KHZZ.

Options :

IGDU

1.

IGDV

2.

JGDU

3.

GJDV

4.

Question Number : 39 Question Id : 623217583 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following words have a pattern. Identify the pattern and fill the blank.

ACE, JJJ, SQO, BXT, _____.

Options :

1. KKK

2. JEK

3. ZAB

4. KEY

Question Number : 40 Question Id : 623217584 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following items have a pattern. Identify the pattern and fill the blank.

B2E, D5H, F12K, H27N, _____.

Options :

1. J56I

2. J58Q

3. I64Q

4. Q62J

Question Number : 41 Question Id : 623217585 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

A man leaves city A at 6.00 am and reaches city B at 10.00 am. Another man leaves city B at 8.00 am and reaches the city A at 12.00 noon. They will meet at time

Options :

1. 9.00 am
2. 9.30 am
3. 9.45 am
4. 10.00 am

Question Number : 42 Question Id : 623217586 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

An year ago, the ratio between Anil's and Sunil's salaries was 3:5. The ratio of their individual salaries of last year and present are 2:3 and 4:5 respectively. If their total salaries for the present year are ₹ 43,000, the present salary of Anil is

Options :

1. ₹ 20,000
2. ₹ 19,600
3. ₹ 18,400
4. ₹ 18,000

Question Number : 43 Question Id : 623217587 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The present expenditure of an employee on food and other items is ₹ 2,590. There is an increase of prices of 10% on food items and 15% on other items. If the ratio of an employees expenditure on food items and other items is 2:5, by how much should his expenditure be increased on these items in order that he may maintain the same level of consumption as before?

Options :

1. ₹ 351-50

2. ₹ 360-50

3. ₹ 382-50

4. ₹ 410-75

Question Number : 44 Question Id : 623217588 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The profit earned by selling an article for ₹ 900 is twice the loss incurred when the same article is sold for ₹ 600. At what price should the article be sold to make 30% profit?

Options :

1. ₹ 750

2. ₹ 810

3. ₹ 840

4. ₹ 910

Question Number : 45 Question Id : 623217589 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

What percent simple interest does a man get for his money when in discounting a bill due 10 months hence, he deducts 10% of the amount of the bill?

Options :

1. $11\frac{2}{3}$

2. $12\frac{1}{3}$

3. $13\frac{1}{3}$

4. $14\frac{2}{3}$

Sub-Section Number: 4
Sub-Section Id: 62321722
Question Shuffling Allowed : No

Question Number : 46 Question Id : 623217590 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

If the conclusion of an argument follows from its premise/premises conclusively, that argument is called

Options :

1. Inductive argument

2. Deductive argument

3. Analogical argument

4. Circular argument

Question Number : 47 Question Id : 623217591 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

In the following question Assertion and Reasoning statements are given. Based on that choose correct answer.

Assertion (A) : All teaching implies learning

Reason (R) : Learning to be useful must be derived from teaching

Options :

1. Both (A) and (B) are true but (R) is not a correct explanation of (A)

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

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

4. Both (A) and (B) are true; (R) is a correct explanation of (A)

Question Number : 48 Question Id : 623217592 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Consider the two premises and the four conclusions drawn from those two premises.
Select the code that expresses conclusion drawn validly from the premises (jointly or separately).

Premises:

A) All cows are mammals

B) No cats are cows

Conclusions:

I) No cats are mammals

II) Some cats are mammals

III) No cows are cats

IV) No cows are non-mammals

Options :

1. Only I

2. I and II

3. III and IV

4. II and III

Question Number : 49 Question Id : 623217593 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

You are given a statement followed by three assumptions numbered I, II and III. You have to consider the statement and the following assumptions, decide which assumptions is/are implicit in the statement and choose your answer accordingly statement:

Statement: “If you are intelligent, we are the right people for improving your performance” – An advertisement of a coaching centre.

- Assumptions:
- I) Brilliant students prefer to join coaching classes
 - II) Coaching classes help the students to improve their performance
 - III) No other institute provides such coaching

Options :

1. Only (I) and (II) are implicit
2. Only (II) and (III) are implicit
3. Only (I) and (III) are implicit
4. All are implicit

Question Number : 50 Question Id : 623217594 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

The following words have some relationships. The two blanks given are also having the relationships. Identify the two words and choose the correct answer.

Fury : Ire : : _____ : _____.

Options :

1. Convulsion : Spasm
2. Amusement : Happiness
3. Joke : Laugh
4. Dispassion : Emotion

Question Number : 51 Question Id : 623217595 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following words have some relationships. The two blanks given are also having the relationships. Identify the two words and choose the correct answer.

Wine : Grapes :: Vodka : _____.

Options :

1. Apples

2. Potatoes

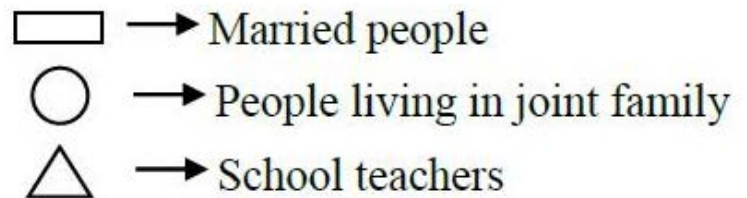
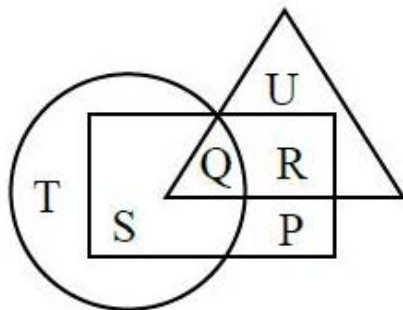
3. Oranges

4. Flour

Question Number : 52 Question Id : 623217596 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Study the following figure and answer the question below.



Married teachers who live in joint family are represented by the letter

Options :

1. P

2. Q

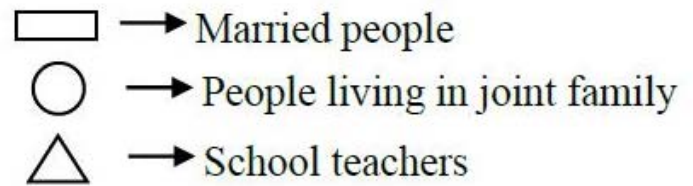
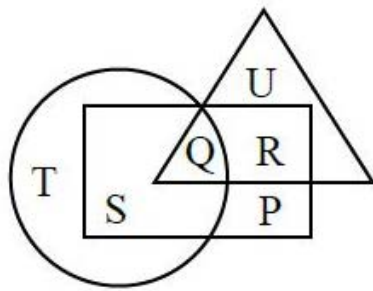
3. R

4. S

Question Number : 53 Question Id : 623217597 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Study the following figure and answer the question below.



The people who live in joint family but are neither married nor teachers are represented by the letter

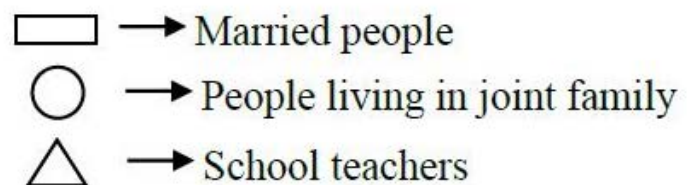
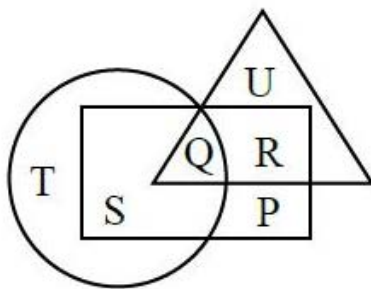
Options :

1. Q
2. R
3. S
4. T

Question Number : 54 Question Id : 623217598 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Study the following figure and answer the question below.



Married people who live in joint family but not are school teachers, are represented by the letter

Options :

1. S

2. R

3. P

4. U

Question Number : 55 Question Id : 623217599 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following data gives the number of smartphones sold by five stores P, Q, R, S and T in five months. Study this data carefully and answer the question below it.

Store Month	P	Q	R	S	T
January	126	121	105	103	113
February	100	105	112	82	156
March	131	116	95	115	215
April	170	166	146	165	282
May	225	234	204	295	408

The total number of smartphones sold by store S in April and May together is what percent of the number of smartphones sold by Store T in the same months together?

Options :

1. $66\frac{2}{3}\%$

2. $59\frac{2}{3}\%$

3. $58\frac{1}{3}\%$

4. $65\frac{3}{4}\%$

Wrong Marks : 0

The following data gives the number of smartphones sold by five stores P, Q, R, S and T in five months. Study this data carefully and answer the question below it.

Store Month	P	Q	R	S	T
January	126	121	105	103	113
February	100	105	112	82	156
March	131	116	95	115	215
April	170	166	146	165	282
May	225	234	204	295	408

The total number of smartphones sold by all the stores together in July was 25% more than the total number of smartphones sold by all the stores together in January. How many smartphones were sold by all the stores together in July?

Options :

1. 745
2. 719
3. 710
4. 695

Wrong Marks : 0

The following data gives the number of smartphones sold by five stores P, Q, R, S and T in five months. Study this data carefully and answer the question below it.

Store Month	P	Q	R	S	T
January	126	121	105	103	113
February	100	105	112	82	156
March	131	116	95	115	215
April	170	166	146	165	282
May	225	234	204	295	408

What is the ratio of the total number of smartphones sold by store Q in April and May together to the total number of smartphones sold by stores R in the same month together?

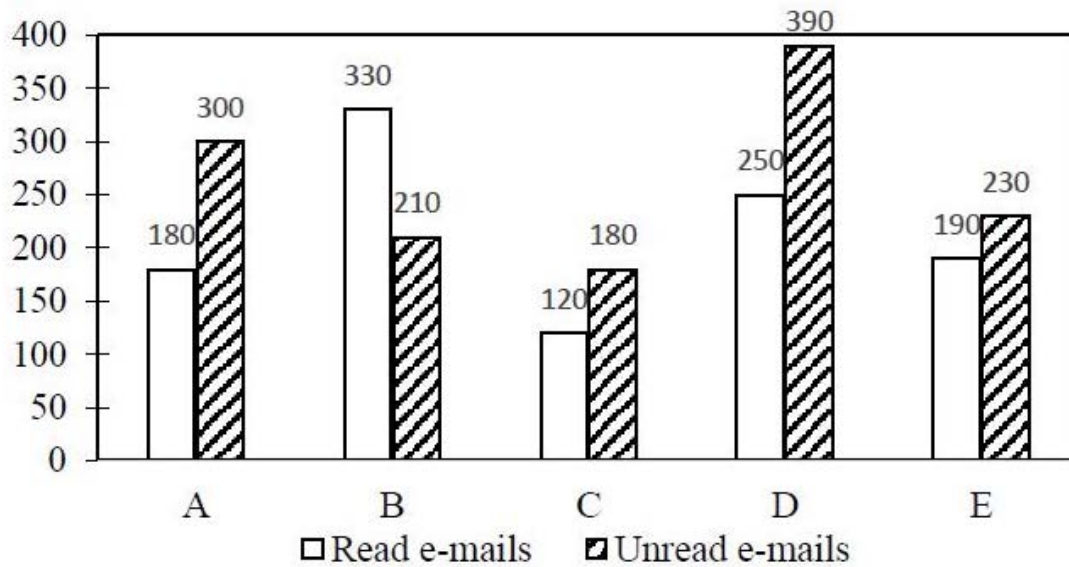
Options :

1. 6:7
2. 8:7
3. 9:7
4. 11:9

Question Number : 58 Question Id : 623217602 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The graph given below gives the number of received e-mails read by five persons A, B, C, D, E on Monday. This number includes the e-mails read and e-mails unread. Assume that there are no pending e-mails carried forward from previous days to Monday. Data relates to the number of mails received on Monday only.



If the number of e-mails received by F was 38% more than that by C and the number of e-mails read by F was 25% more than that unread by him, then how many e-mails were read by F?

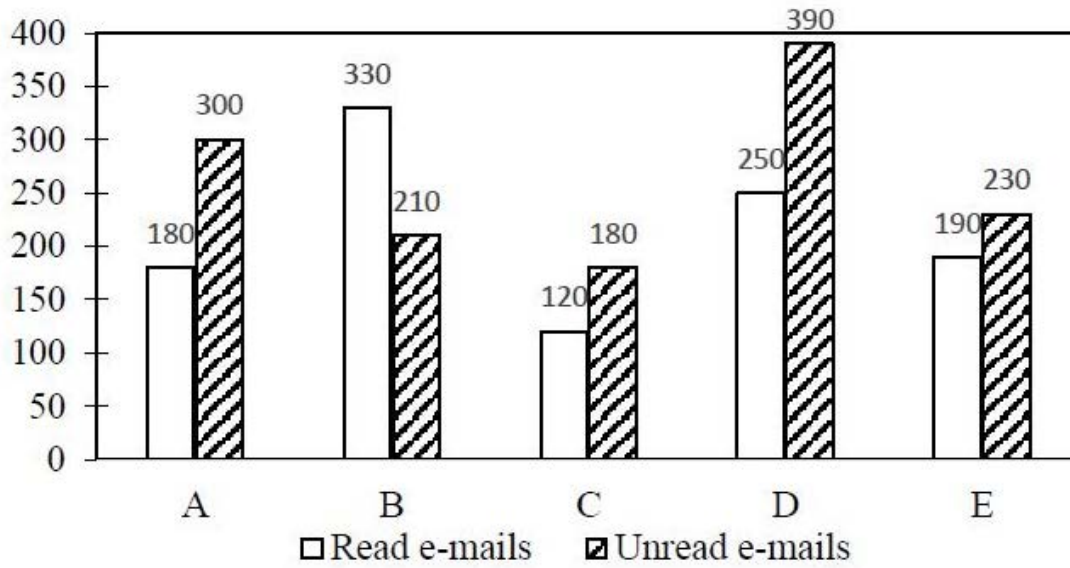
Options :

1. 230
2. 220
3. 210
4. 250

Question Number : 59 Question Id : 623217603 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

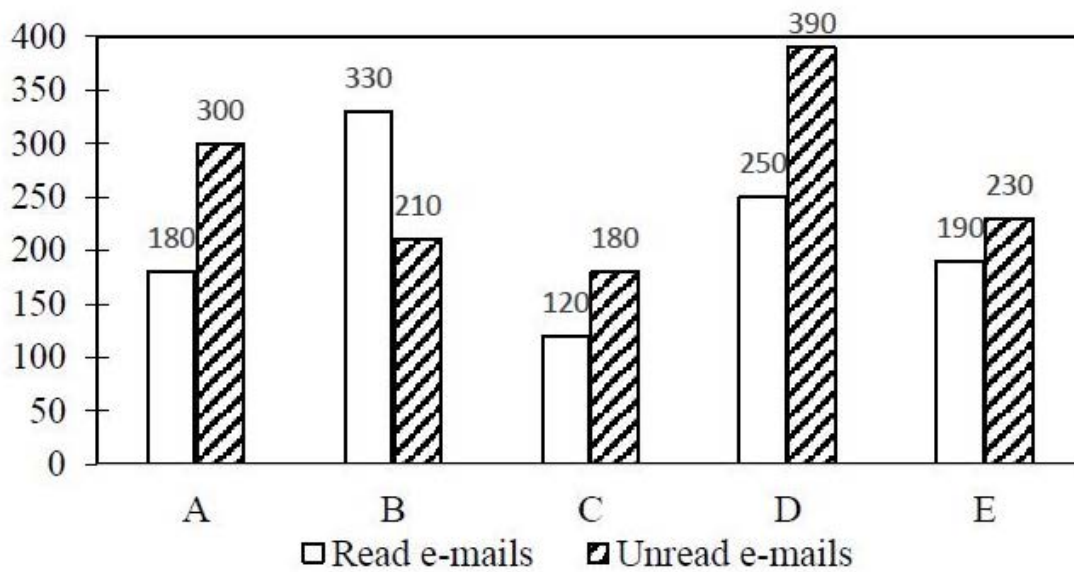
The graph given below gives the number of received e-mails read by five persons A, B, C, D, E on Monday. This number includes the e-mails read and e-mails unread. Assume that there are no pending e-mails carried forward from previous days to Monday. Data relates to the number of mails received on Monday only.



The percentage of read e-mails for A and G (out of received e-mails for each of them) were equal. If the number of e-mails received by G is 360, then how many e-mails were unread by G?

- Options :
1. 235
 2. 230
 3. 225
 4. 220

The graph given below gives the number of received e-mails read by five persons A, B, C, D, E on Monday. This number includes the e-mails read and e-mails unread. Assume that there are no pending e-mails carried forward from previous days to Monday. Data relates to the number of mails received on Monday only.



Out of the e-mails read by B, 60% are from male customers. The number of unread e-mails from female customers is 51 less than that of the read e-mails from female customers. What is the number of unread e-mails from male customers?

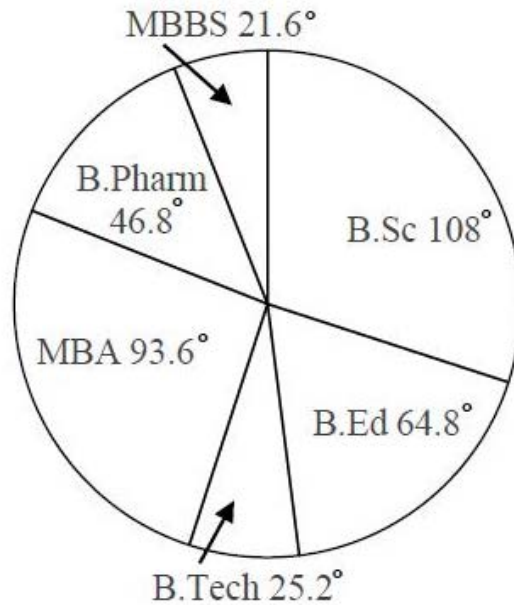
Options :

1. 135
2. 133
3. 131
4. 129

Question Number : 61 Question Id : 623217605 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following pie-chart shows the distribution of students in different courses. Study this chart carefully and answer the following question. Total number of students = 6,800.



How much less percentage (approximately) of students are there in MBBS course as compared to B.Sc. course?

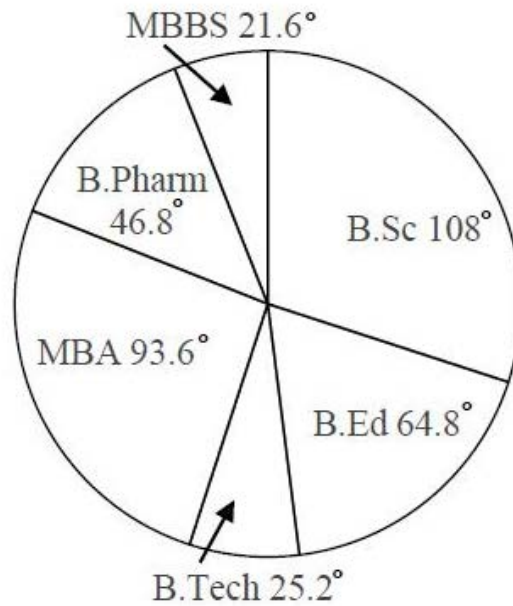
Options :

1. 80%
2. 60%
3. 40%
4. 36%

Question Number : 62 Question Id : 623217606 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following pie-chart shows the distribution of students in different courses. Study this chart carefully and answer the following question. Total number of students = 6,800.



If in MBA the ratio of boys to girls is 5:3 and 20% of boys are in Finance course, then what is the number of boys in the Finance course?

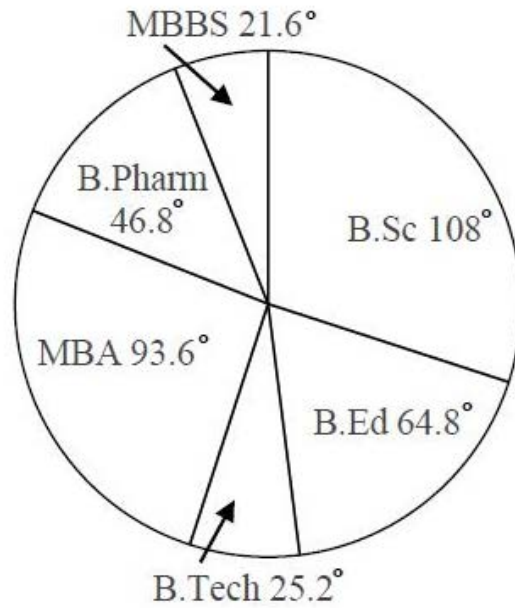
Options :

1. 325
2. 225
3. 229
4. 221

Question Number : 63 Question Id : 623217607 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The following pie-chart shows the distribution of students in different courses. Study this chart carefully and answer the following question. Total number of students = 6,800.



The number of students in MBBS and B.Tech together is what percent of that in B.Ed course?

Options :

1. 69.33%
2. 72.22%
3. 76%
4. 79.34%

Sub-Section Number: 5
Sub-Section Id: 62321723
Question Shuffling Allowed : Yes

Question Number : 64 Question Id : 623217608 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following refers to unsolicited e-mails in the form of advertising or chain letters?

Options :

1. Inbox
2. Trash
3. Spam
4. Compose

Question Number : 65 Question Id : 623217609 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

The tags placed on an animal to record and track in a database all of the animal's movements is known as

Options :

1. POS
2. PPS
3. GPS
4. RFID

Question Number : 66 Question Id : 623217610 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

Internal communication within institutions is done through

Options :

1. WAN
2. LAN
3. EBB

MMS

4.

Question Number : 67 Question Id : 623217611 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The total number of command buttons on the title bar of an opened word processing windows is

Options :

1. 6

2. 5

3. 3

4. 2

Question Number : 68 Question Id : 623217612 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The complete (full)) form of USB as used in computer related activities is

Options :

1. Universal Security Block

2. Universal Serial Bus

3. United Serial Bus

4. Ultra Security Block

Question Number : 69 Question Id : 623217613 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The key on the QWERTY keyboard used to produce alphabetic upper case letters is

Options :

1. Home
2. Tab
3. Num lock
4. Caps lock

Question Number : 70 Question Id : 623217614 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

Which one of the following is not included in the basic functions of operating system?

Options :

1. Job control
2. Job scheduling
3. Memory management
4. Data management

Question Number : 71 Question Id : 623217615 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

The temporary working memory of a computer system is the

Options :

1. arithmetic logic unit
2. flash memory
3. random access memory

read only memory

4.

Question Number : 72 Question Id : 623217616 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

A compiler is a software which converts

Options :

characters to bits

1.

high level language to machine language

2.

words to bits

3.

machine language to high level language

4.

Question Number : 73 Question Id : 623217617 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The aggregation of all eco systems on the earth is referred to as

Options :

Atmosphere

1.

Ecosphere

2.

Stratosphere

3.

Ionosphere

4.

Question Number : 74 Question Id : 623217618 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

In which of the following area does radiant drainage fully develop?

Options :

1. On a point bar
2. Near a delta
3. Around an ox-bow lake
4. Around a volcano

Question Number : 75 Question Id : 623217619 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

When the environmental lapse rate is less than the adiabatic lapse rate, the atmosphere is

Options :

1. Stable
2. Moderately unstable
3. High unstable
4. Neutral

Question Number : 76 Question Id : 623217620 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

When a disaster has occurred, the early action in a Disaster Management Plan could be

Options :

1. Response and Rescue
2. Warning and preparedness
3. Relief and Rehabilitation
4. Shelter and food supply

Question Number : 77 Question Id : 623217621 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Ecosystem diversity can be best studied using the

Options :

1. Topographical maps
2. Geoinformatics
3. Geodesy
4. Geology

Question Number : 78 Question Id : 623217622 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The geometric mean of the data 2, 4, 27 is

Options :

1. 6
2. $6\sqrt{6}$
3. 16.5
4. $\sqrt{33}$

Question Number : 79 Question Id : 623217623 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following frequency region is part of sun's radiation?

Options :

1. Visible frequency region
2. Infrared frequency region

3. Ultraviolet frequency region

4. All of the other options

Question Number : 80 Question Id : 623217624 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

In the standard hydrogen electrode, the pressure of hydrogen and hydrogen ion concentration respectively are:

Options :

1. 1 atm and 10 mol/L

2. 10 atm and 1 mol/L

3. 1 atm and 1 mol/L

4. 1 atm and 5 mol/L

Question Number : 81 Question Id : 623217625 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

About half of the earth's photosynthesis is carried out by

Options :

1. Cyanobacteria

2. Rainforest flora

3. Protists

4. Marine phytoplankton

Question Number : 82 Question Id : 623217626 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The purpose of value education is best served by focussing on

Options :

1. cultural practices prevailing in the society
2. religious, moral practices and instruction
3. norms of conduct laid down by a social group
4. concern of human values

Question Number : 83 Question Id : 623217627 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The design of 5+3+3+4 suggested by New Education Policy, 2019 (Draft) in which the first stage of 5 year education is divided into

Options :

1. pre-primary school and post primary school
2. primary school and pre-primary school
3. pre-primary school , class-I and class-II
4. pre-primary , class-IV and class-V

Question Number : 84 Question Id : 623217628 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

One of the following is not related to the aims of New Education Policy, 2019 (Draft)

Options :

1. Justice
2. Access

3. Equality

4. Equity

Question Number : 85 Question Id : 623217629 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The number of languages recognized by the 8th schedule of constitution of India in the beginning

Options :

1. 20

2. 22

3. 15

4. 12

Question Number : 86 Question Id : 623217630 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The Indian Education Policy is mostly influenced by the following method

Options :

1. Materialism

2. Metaphysics

3. Empencism

4. Constructivism

Question Number : 87 Question Id : 623217631 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The learning of outcomes envisaged by Benzamin Bloom has been confined to the following three domains.

Options :

1. Precisim – Affective – Psychomotor
2. Psychomotor – Perceplin – Attitude
3. Cognitive – Affective – Psychomotor
4. Articulation – Perception – Affective

Question Number : 88 Question Id : 623217632 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The document on Examination Reforms – A plan of action by UGC brought out to focus mainly on

Options :

1. Choice-based credit system
2. Open book system
3. Internal assessment
4. Assessment by students

Question Number : 89 Question Id : 623217633 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The technic of ‘School Mapping’ is used for

Options :

1. Mobilising finance for education

2. Mobilising people for education
3. Establishing school committees
4. Introducing new schools

Question Number : 90 Question Id : 623217634 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Who said that “adult education as inclusive and of education of politics, of citizenship and also of morality”?

Options :

1. S.N. Mukerjee
2. Humayun Kabir
3. K.G. Sayyidain
4. Jakir Hussian

CHEMICAL SCIENCES

Section Id :	6232178
Section Number :	2
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	90
Number of Questions to be attempted:	90
Section Marks:	90
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	62321724
Question Shuffling Allowed :	Yes

Question Number : 91 Question Id : 623217635 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following statement is false?

Options :

1. Elements of IA and IIA groups are normal elements
2. Elements of IB and IIB groups are transition elements
3. Elements of IIA group are called alkaline earth metals
4. Elements of IVB group are neither strongly electronegative nor strongly electropositive

Question Number : 92 Question Id : 623217636 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which pair is different from the others?

Options :

1. Li-Mg
2. B-Al
3. Na-K
4. Ca-Mg

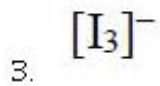
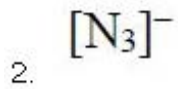
Question Number : 93 Question Id : 623217637 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following is non-linear according to VSEPR theory?

Options :

1. CO_2

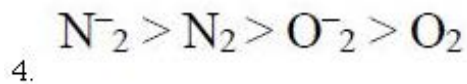
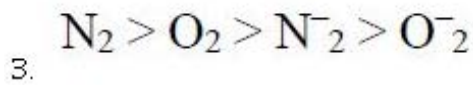
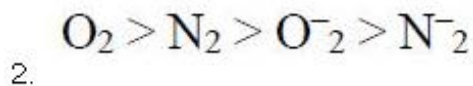
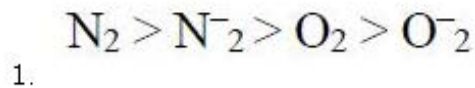


Question Number : 94 Question Id : 623217638 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The bond order for N_2 , O_2 , N_2^- , O_2^- varies as

Options :

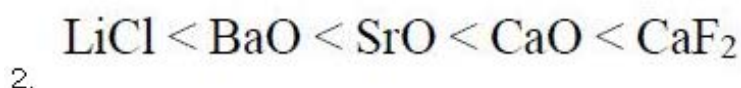


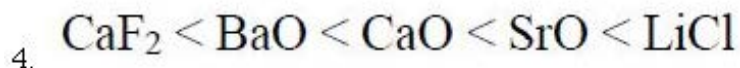
Question Number : 95 Question Id : 623217639 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Find out the correct increasing order of strength of ionic bond of the following compounds: LiCl , SrO , BaO , CaO , CaF_2

Options :



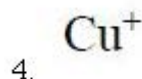
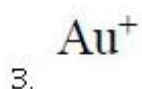
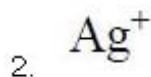
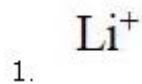


Question Number : 96 Question Id : 623217640 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following is a hard acid?

Options :

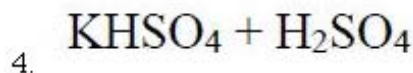
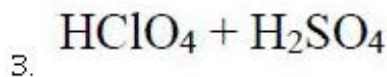
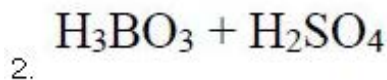
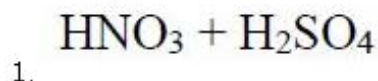


Question Number : 97 Question Id : 623217641 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following mixtures of two pure acids, the strongest acid will be

Options :



Question Number : 98 Question Id : 623217642 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The alkalide ion is

Options :

1. paramagnetic
2. diamagnetic
3. represented as CH^+_3
4. represented as CH^-_3

Question Number : 99 Question Id : 623217643 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

Ripening of fruits can be carried out in presence of

Options :

1. CaCl_2
2. Na_2SO_4
3. CaC_2
4. NaCl

Question Number : 100 Question Id : 623217644 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

The ability of d-block elements to form complexes is due to

Options :

1. small and highly charged ions
2. vacant low energy orbitals to accept lone pair of electrons from ligands
3. highly charged ions and vacant low energy orbitals to accept lone pair of electrons

None of the other options

4.

Question Number : 101 Question Id : 623217645 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

In complex $[\text{Fe}(\text{bpy})_3]^{2+}$ colour arises due to

Options :

1. charge transfer from ligand bpy to Fe^{2+} orbitals

1.

2. d-d transitions

2.

3. charge transfer from π^* orbitals of bpy to eg orbitals of Fe^{2+}

3.

4. charge transfer from Fe^{2+} to π^* orbitals of bpy ligand

4.

Question Number : 102 Question Id : 623217646 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The ion that gets readily hydrolysed is

Options :

1. Dy

1.

2. Nd

2.

3. Eu

3.

4. Er

4.

Question Number : 103 Question Id : 623217647 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Ce^{4+} produced by treating mixture of tripositive lanthanide with KMnO_4 is

Options :

1. more basic, less soluble

2. less basic, more soluble

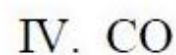
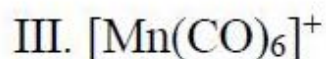
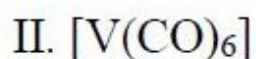
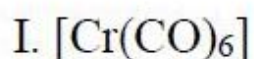
3. less basic, less soluble

4. more basic, more soluble

Question Number : 104 Question Id : 623217648 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Arrange the following in the increasing order of CO stretching



Options :

1. $\text{I} > \text{II} > \text{III} > \text{IV}$

2. $\text{II} < \text{I} < \text{III} < \text{IV}$

3. $\text{II} < \text{III} < \text{I} < \text{IV}$

4. $\text{I} < \text{II} < \text{III} < \text{IV}$

Question Number : 105 Question Id : 623217649 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Match the following:

Group-I

- A. $(PPh_3)_3 RhCl$
- B. $[Rh (CO)_2 I_2]^-$
- C. $[PdCl_4]^{2-}$
- D. $[H CO (CO)_4]$
- E. $Er_3 Al : TiCl_3$

Group-II

- 1. Friedel-Craft catalyst
- 2. Ziegler-Natta catalyst
- 3. Monsanto catalyst
- 4. Oxo process
- 5. Wacker's process
- 6. Hydrogenation catalyst

Options :

1. A-1 B-6 C-5 D-2 E-3

2. A-2 B-6 C-4 D-5 E-3

3. A-6 B-1 C-4 D-5 E-3

4. A-6 B-3 C-5 D-4 E-2

Question Number : 106 Question Id : 623217650 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

Number of metal-metal bonds in $[(C_5H_5)Fe(CO)_2]_2$ is

Options :

1. Zero

2. One

3. Two

4. Three

Question Number : 107 Question Id : 623217651 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

On oxidative addition of O_2 to $Ir(CO)Cl(PPh_3)_2$ the oxidation state and coordination number of Ir changes respectively by

Options :

1. 2 and 2
2. 2 and 3
3. 1 and 3
4. 3 and 1

Question Number : 108 Question Id : 623217652 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Generally octahedral clusters are formed by

Options :

1. Mo, Nb, Ta
2. Mo, Nb, Tl
3. Se, Y, La
4. Zn, Cd, Hg

Question Number : 109 Question Id : 623217653 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Dispersion of a solid in a liquid, a liquid in a gas and a liquid in a liquid are respectively known as

Options :

1. Aersol, emulsion, sol

1.

2. Sol, aersol, emulsion

2.

3. Emulsion, sol, aersol

3.

4. Aersol, sol, emulsion

4.

Question Number : 110 Question Id : 623217654 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following devices is most commonly used for the formation of an atomic vapour in atomic absorption?

Options :

1. Flame atomisation

1.

2. Electric arcs and sparks

2.

3. Sputtering devices

3.

4. Ovens

4.

Question Number : 111 Question Id : 623217655 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following is used to detect non-volatile organic compounds?

Options :

1. Chromic sulphuric Acid

1.

2. I₂ vapours

2.

3. Ninhydrin

4. SbCl_5 in CCl_4

Question Number : 112 Question Id : 623217656 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

O_2 partial pressure for Mb in cellular tissue

Options :

1. low

2. high

3. moderate

4. can change depending up on the outer environment

Question Number : 113 Question Id : 623217657 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Match the following:

Group-I

A. Cytochrome-C

B. Calmodulin

C. Chlorophyll

D. Alcohol dehydrogenase

Group-II

1. Mo

2. K

3. Mg

4. Zn

5. Fe

6. Ca

Options :

1. A-2 B-3 C-4 D-5

2. A-5 B-4 C-6 D-2

3. A-5 B-6 C-3 D-4

4. A-1 B-3 C-4 D-5

Question Number : 114 Question Id : 623217658 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The crystal field splitting energy (Δ) for $[\text{CoCl}_6]^{4-}$ is 18000 cm^{-1} and Δ for CoCl_4^{2-} will be

Options :

1. 16000 cm^{-1}

2. 8000 cm^{-1}

3. 2000 cm^{-1}

4. 18000 cm^{-1}

Question Number : 115 Question Id : 623217659 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

State which of the following molecules can show a pure rotational microwave spectrum.

Options :

1. N_2

2. CO_2

3. OCS

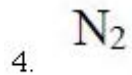
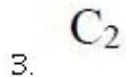
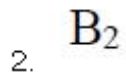
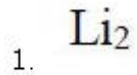
4. HCl

Question Number : 116 Question Id : 623217660 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Among the following diatomic molecules, which one will show EPR signal?

Options :

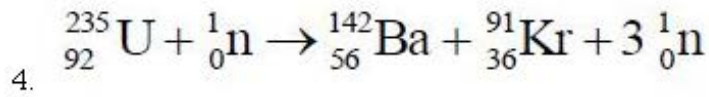
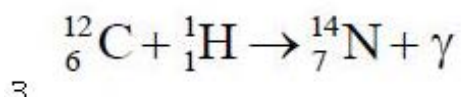
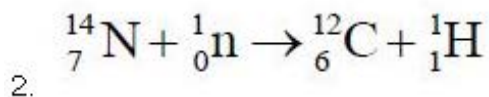
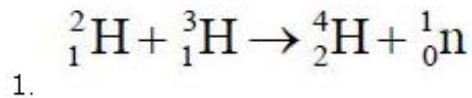


Question Number : 117 Question Id : 623217661 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following nuclear reactions is an example of nuclear fusion?

Options :

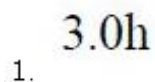


Question Number : 118 Question Id : 623217662 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The half-life of ${}^{99}\text{Tc}$ is 6h. Hence, average life is

Options :



2. $8.66h$

3. $4.17h$

4. $8.00h$

Question Number : 119 Question Id : 623217663 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Consider '8' electrons in a one-dimensional box of length a extending from $x = 0$ to $x = a$. What is the minimum allowed total energy using Pauli's exclusion principle for the system? ($m =$ mass of electron).

Options :

1. $\frac{8h^2}{ma^2}$

2. $\frac{10h^2}{ma^2}$

3. $\frac{15h^2}{4ma^2}$

4. $\frac{15h^2}{2ma^2}$

Question Number : 120 Question Id : 623217664 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The normalized eigen states of a particle in a 1-D potential well

$$V(x) = \begin{cases} 0, & \text{if } 0 \leq x \leq a \\ \infty, & \text{otherwise} \end{cases} \text{ are given by } \psi_n(x) = \sqrt{\frac{2}{a}} \sin\left(\frac{n\pi x}{a}\right) \text{ where } n = 1, 2, 3, \dots$$

The particle is subjected to a perturbation $V(x) = V_0 \cos\left(\frac{\pi x}{a}\right)$ for $0 \leq x \leq \frac{a}{2} = 0$,

otherwise. The shift in the ground state energy due to perturbation, in the first order perturbation theory is

Options :

1. $\frac{2V_0}{3\pi}$

2. $\frac{-V_0}{3\pi}$

3. $\frac{-2V_0}{3\pi}$

4. $\frac{V_0}{3\pi}$

Question Number : 121 Question Id : 623217665 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following is true from variation theorem?

Options :

1. $E_1 < E_0$

2. $E_1 \geq E_0$

3. $E_1 > E_0$

4. $E_1 = E_0$ (or) $E_1 < E_0$

Question Number : 122 Question Id : 623217666 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

The ground state term symbol for d^9 configuration is

Options :

1. ${}^4F_{9/2}$

2. 1S_0

3. ${}^2D_{5/2}$

4. ${}^2D_{3/2}$

Question Number : 123 Question Id : 623217667 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

The number of microstates for d^5 configuration is

Options :

1. 49×6^3

2. 7×6^3

3. 7×6^2

4. 14×6^5

Question Number : 124 Question Id : 623217668 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

The Ground state electronic term symbol for ' O_2 ' diatomic molecule is

Options :

1. $^1\Sigma$

2. $^2\Pi$

3. $^3\Sigma$

4. $^3\Pi$

Question Number : 125 Question Id : 623217669 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

For $\text{CH}_2 = \text{CH}_2$ molecule, the coefficient of atomic orbital wave functions are

Options :

1. $\frac{1}{2}, \frac{-1}{2}$

2. $\frac{1}{\sqrt{2}}, \frac{-1}{\sqrt{2}}$

3. $\frac{1}{4}, \frac{-1}{4}$

4. $\frac{1}{2\sqrt{2}}, \frac{-1}{2\sqrt{2}}$

Question Number : 126 Question Id : 623217670 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

CO_2 has

Options :

1. '3' vibrational modes.

2. '4' vibrational modes, '2' of which are degenerate

3. stretching modes only

4. an IR active symmetric stretch

Question Number : 127 Question Id : 623217671 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which pairing of molecule and point group is correct?

Options :

1. CH_2Cl_2 , T_d

2. CCl_2Br_2 , C_{2h}

3. CCl_4 , D_{4d}

4. CHCl_3 , C_{3v}

Question Number : 128 Question Id : 623217672 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

For a diatomic molecule, the selection rule for a pure rotational transition is

Options :

1. $\Delta J = 0, \pm 1$

2. $\Delta J = 0$ only

3. $\Delta J = \pm 1, \pm \frac{1}{2}$

4. $\Delta J = \pm 1$ only

Question Number : 129 Question Id : 623217673 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

When the oscillating molecule is in its lowest vibrational-level, its energy is equal to

$\frac{1}{2}KV_0$ and is called _____.

Options :

1. zero point energy
2. rotational energy
3. electronic energy
4. vibrational energy

Question Number : 130 Question Id : 623217674 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The efficiency of a heat engine working between heat reservoirs at temperature 327°C and 27°C respectively is

Options :

1. 25%
2. 50%
3. 75%
4. 45%

Question Number : 131 Question Id : 623217675 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The $v(c_p/w)$ of a diatomic gas is

Options :

1. 1.66

2. 1.33

3. 1.40

4. 1.52

Question Number : 132 Question Id : 623217676 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

In a gas, relative magnitudes of the most probable speed (C_p), the average speed (\bar{C}) and root mean square speed (C_{rms}) of the molecular are

Options :

1. $\bar{C} > C_{rms} > C_p$

2. $C_{rms} > \bar{C} > C_p$

3. $C_{rms} > C_p > \bar{C}$

4. $C_p > C_{rms} > \bar{C}$

Question Number : 133 Question Id : 623217677 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

A system of N non-interacting and distinguishable particles of spin '1' is in thermodynamic equilibrium. The entropy of the system is

Options :

1. $2K_B \ln N$

2. $3K_B \ln N$

3. $NK_B \ln 2$

4. $NK_B \ln 3$

Question Number : 134 Question Id : 623217678 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

For a precipitation reaction $Ag^+ + e^- \rightarrow Ag$. The equation for the E_{cell} is

Options :

1. $E^0 + \frac{RT}{1F} \ln[Ag]/[Ag^+]$

2. $E^0 + \frac{RT}{1F} \log [Ag^+]$

3. $E^0 + \frac{RT}{1F} \log [Ag^+]/[Ag]$

4. $E^0 + \frac{RT}{1F} \ln [Ag^+]$

Question Number : 135 Question Id : 623217679 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The mean activity coefficient of 10^{-3} molal Na_2SO_4 solution is

Options :

1. 0.879

2. 0.246

3. 0.369

0.571

4.

Question Number : 136 Question Id : 623217680 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which one of the following statements is incorrect about order of reaction?

Options :

1. It is determined experimentally
2. It is equal to the sum of the power of concentration terms in differential rate law
3. It is not effected with stoichiometric coefficient of the reactants
4. Order cannot be fractional

Question Number : 137 Question Id : 623217681 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The rate law for the multistep chain reaction $\text{H}_2 + \text{Br}_2 \rightarrow 2\text{HBr}$ is

$$\text{Rate} = \frac{d[\text{HBr}]}{dt} = \frac{K_1[\text{H}_2][\text{Br}_2]^{3/2}}{[\text{Br}_2] + K_2[\text{HBr}]}$$

Which of the following expresses the rate law in the limit of high pressures of bromine, Br_2 ?

Options :

1. $\text{Rate} = K_1[\text{Br}_2]^{3/2}$
2. $\text{Rate} = K_1[\text{H}_2] [\text{Br}_2]^{3/2}$
3. $\text{Rate} = K_1[\text{H}_2] [\text{Br}_2]^{1/2}$
4. $\text{Rate} = K_1[\text{H}_2] [\text{Br}_2]$

Wrong Marks : 0

Milk is an emulsion of fat dispersed in water. It is stabilized by

Options :

1. Casein – a lyophilic sol
2. Casein – a lyophobic sol
3. Lactose – a lyophilic sol
4. Lactose – a lyophobic sol

Wrong Marks : 0

$2 \text{SO}_2 (\text{g}) + \text{O}_2 (\text{g}) \xrightleftharpoons{\text{V}_2\text{O}_5}$ is an example for

Options :

1. homogeneous catalysis
2. heterogeneous catalysis
3. neutralization reaction
4. irreversible reaction

Wrong Marks : 0

Which of the following one is example for Hexagonal crystal system?

Options :

1. $\text{K}_2\text{Cr}_2\text{O}_7$

2. NaCl

3. CdS

4. CaCO₃

Question Number : 141 Question Id : 623217685 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Piezoelectric crystals with zero dipoles are said to have _____.

Options :

1. Ferro electricity

2. Antiferro electricity

3. Pyro electricity

4. Reverse electricity

Question Number : 142 Question Id : 623217686 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

What is the expression for rate of termination reaction between two propagating species in the free radical polymerization?

Options :

1. $k[M^\bullet]^2$

2. $2k[M^\bullet]^2$

3. $2fk[M^\bullet]$

4. $fk[M^\bullet]$

Question Number : 143 Question Id : 623217687 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The percentage of a constituent 'x' in a compound was found to be 48.32, 48.36 and 48.22. The mean deviation would be

Options :

1. 0.053

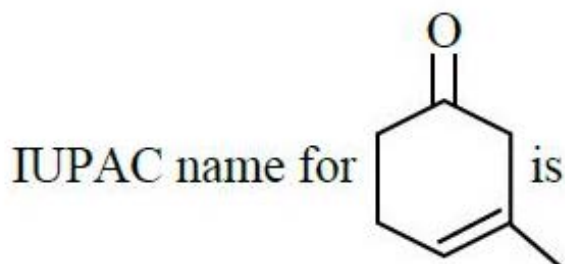
2. 0.53

3. 5.3

4. 0.053

Question Number : 144 Question Id : 623217688 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0



Options :

1. 3-methyl-cyclohex-3-en-1-one

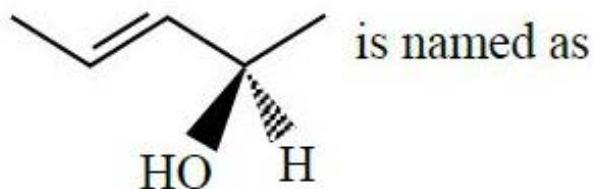
2. 1-methyl-cyclohex-1-en-5-one

3. 2-methyl-cyclohex-1-en-4-one

4. 5-methyl-cyclohex-4-en-1-one

Question Number : 145 Question Id : 623217689 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0



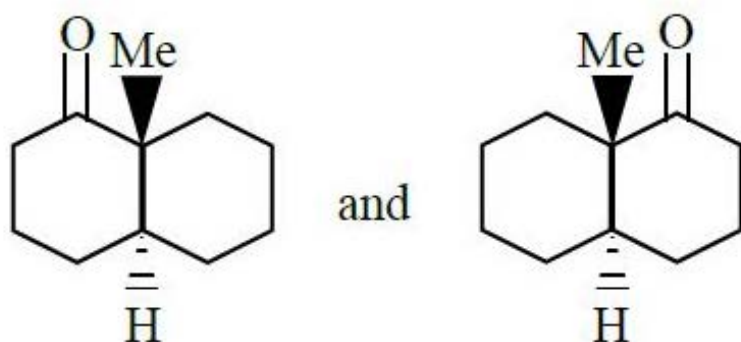
Options :

1. (2E, 3R) – Pent – 2 – en – 3 – ol
2. (2E, 3S) – Pent – 2 – en – 3 – ol
3. (2S, 3E) – Pent – 3 – en – 2 – ol
4. (2R, 3E) – Pent – 3 – en – 2 – ol

Question Number : 146 Question Id : 623217690 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
 Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The two compounds given below are



Options :

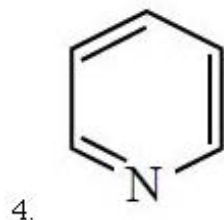
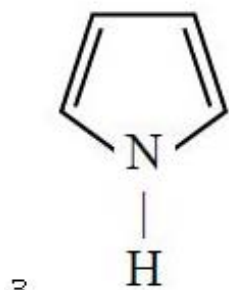
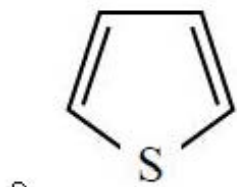
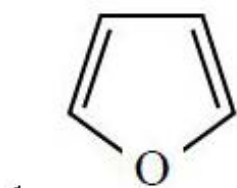
1. enantiomers
2. identical
3. diastereomers
4. regioisomers

Question Number : 147 Question Id : 623217691 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
 Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which among the following is a better Diels Alder diene reacting with maleic anhydride?

Options :



Question Number : 148 Question Id : 623217692 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Assertion (A): cyclopropanone on reaction with HCl forms a salt which give a white precipitate with aq. AgNO_3 .

Reason (R): protonation on oxygen forms an aromatic cation.

Options :

1. A is true and R is false

2. A is false and R is true

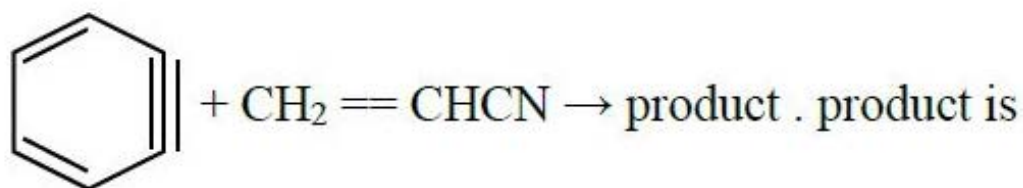
3. Both A and R are true and R is correct explanation of A

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

4.

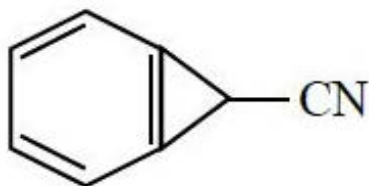
Question Number : 149 Question Id : 623217693 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

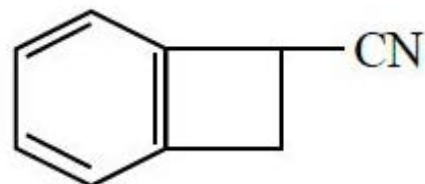


Options :

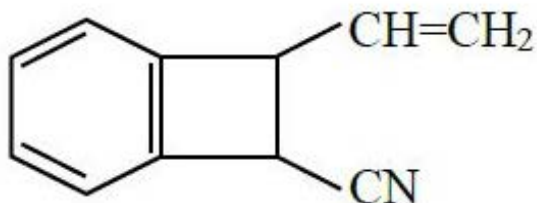
1.



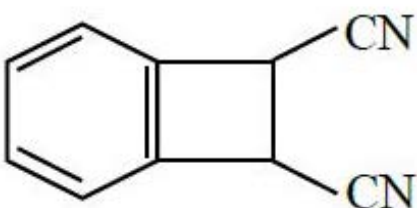
2.



3.



4.



Question Number : 150 Question Id : 623217694 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

In Beckmann rearrangement migrating group is chiral. Select the correct statement for it.

Options :

It will change its configuration while in migration

1.

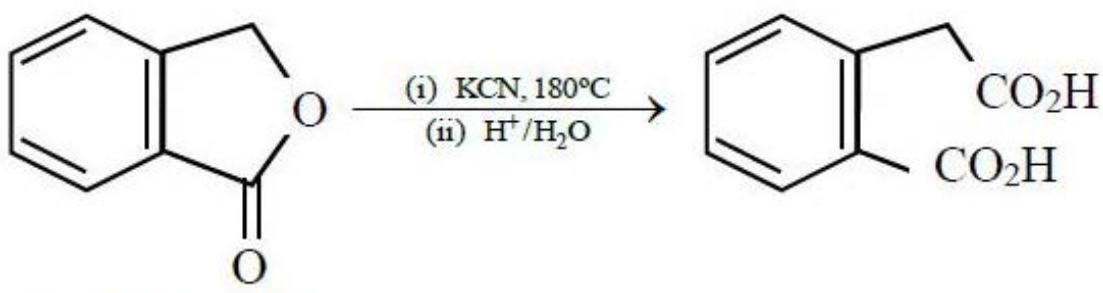
2. It will retain its configuration while in migration

3. There is nothing to do with configuration

4. It can change as well as it can retain its configuration

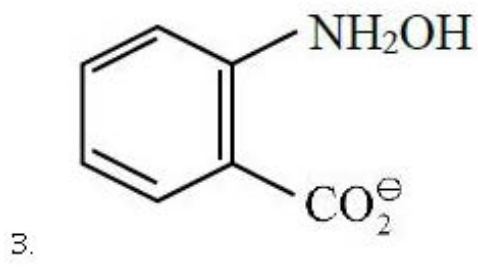
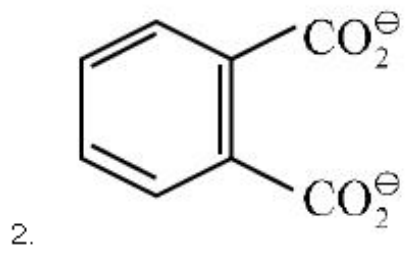
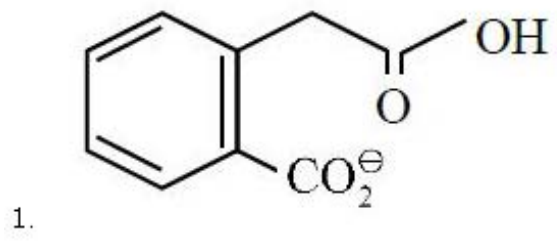
Question Number : 151 Question Id : 623217695 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

In the following reaction,

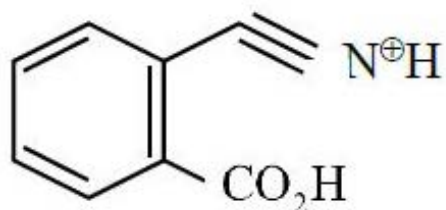


intermediate can be

Options :



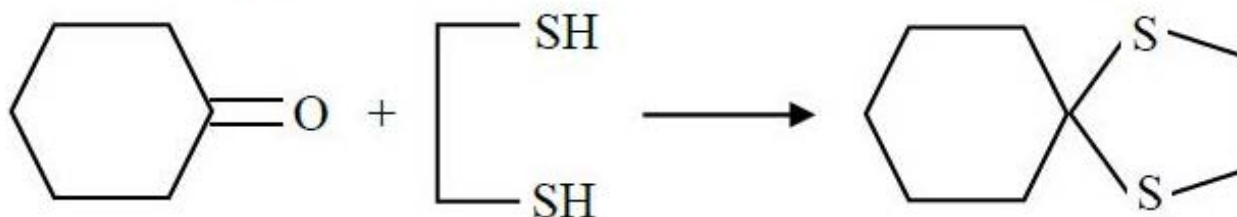
4.



Question Number : 152 Question Id : 623217696 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

A suitable catalyst for bringing out the transformation given below is



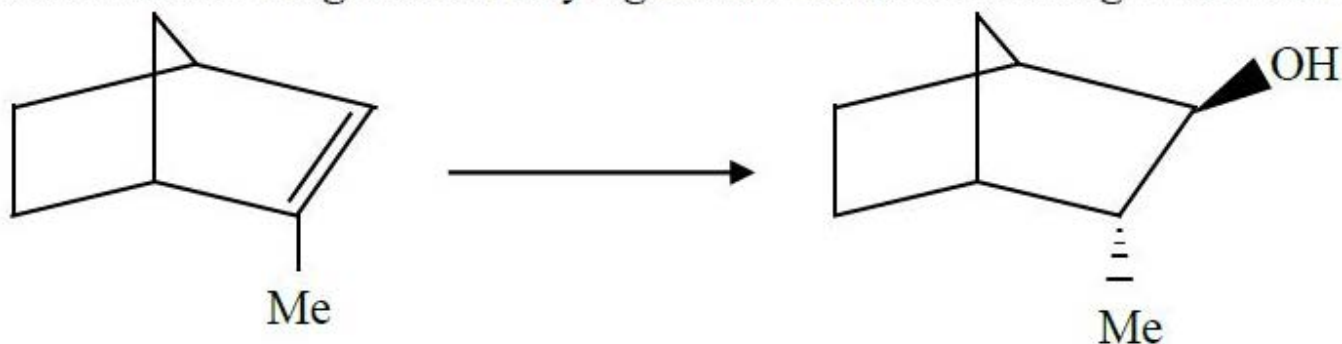
Options :

1. Dibenzoyl peroxide
2. Tungsten lamp
3. $\text{BF}_3 \cdot \text{Et}_2\text{O}$
4. $\text{NaOEt} / \text{EtOH}$

Question Number : 153 Question Id : 623217697 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The most suitable reagent for carrying out the transformation given below is



Options :

1. $m\text{-CPBA}/\text{dil. H}_2\text{SO}_4$

2. B_2H_6 followed by $H_2O_2/NaOH$

3. $Hg(OAc)_2$ followed by $NaBH_4/NaOH$

4. aq. H_2SO_4

Question Number : 154 Question Id : 623217698 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following is not protecting group for carboxylic acids?

Options :

1. Esters

2. Amides

3. Hydrazides

4. Carbamates

Question Number : 155 Question Id : 623217699 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Resolution can be done by

I. Mechanical method

II. Bio-chemical method

III. Chemical method

Options :

1. I, III

2. II, III

3. I, II

4. I, II, III

Question Number : 156 Question Id : 623217700 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Assertion (A): The thermal isomerisation of 3, 4-dimethyl-1,5-hexadiene to 2,6-octadiene takes place by cope rearrangement

Reason (R): The thermal isomerisation of 1, 5-diene by a [3, 3]-sigmatropic shift is known as cope rearrangement

Options :

1. Both A and R are true and R is the correct explanation of A

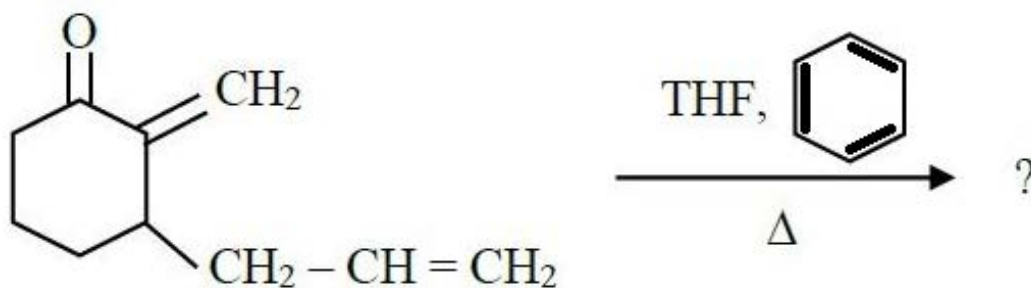
2. A is true but R is false

3. A is false but R is true

4. Both A and R are true but R is not the correct explanation of A

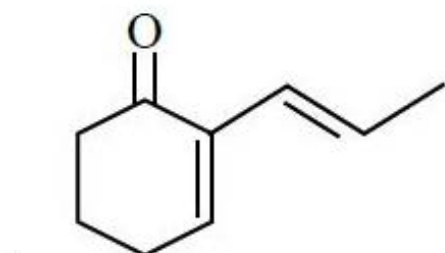
Question Number : 157 Question Id : 623217701 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0



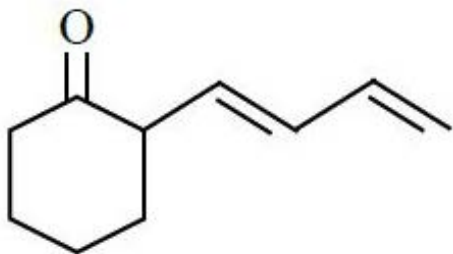
The product of above thermal rearrangement is

Options :

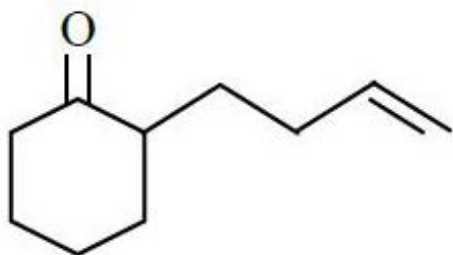


1.

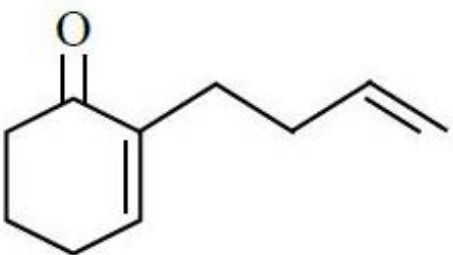
2.



3.



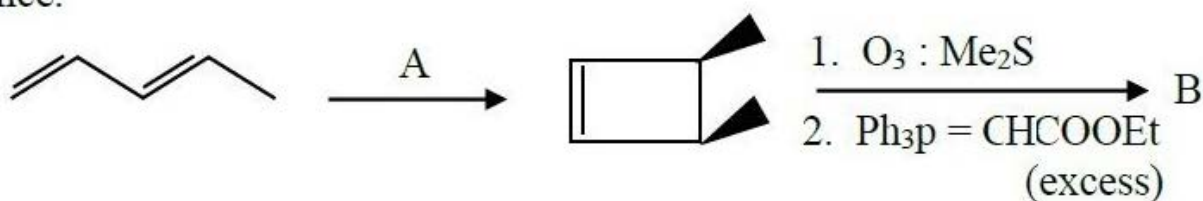
4.



Question Number : 158 Question Id : 623217702 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

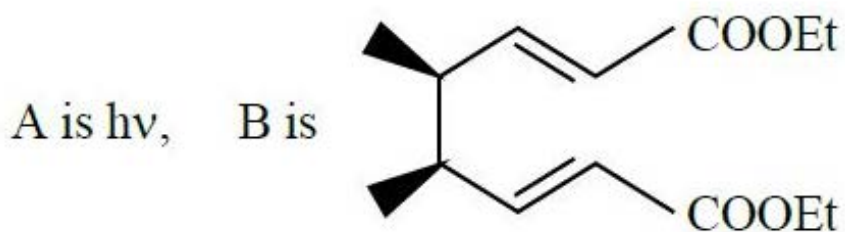
Wrong Marks : 0

Predict the condition A and the structure of the major product B in the following sequence.

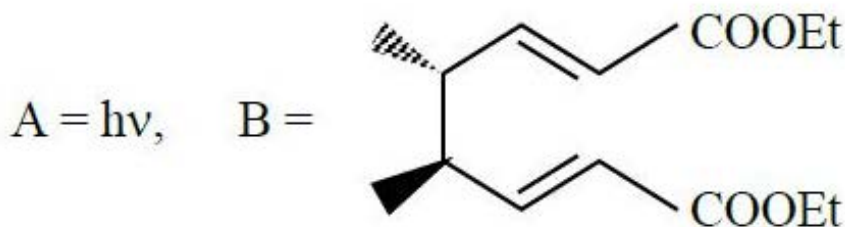


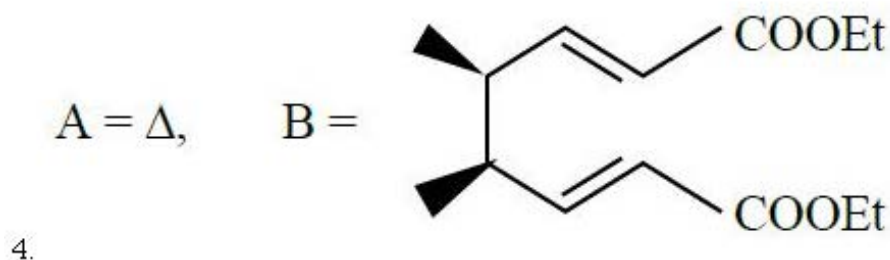
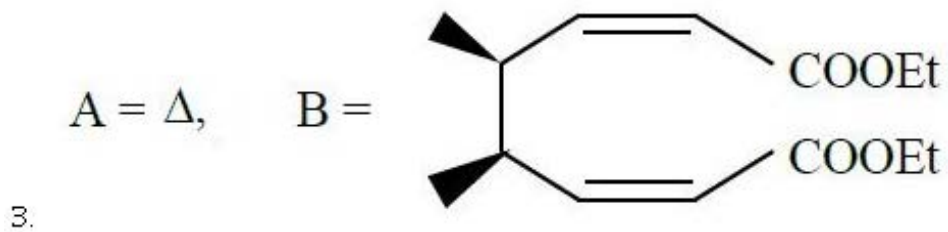
Options :

1.



2.



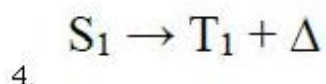
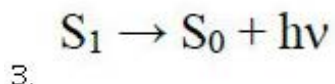
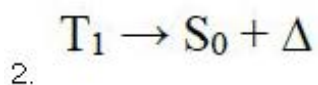
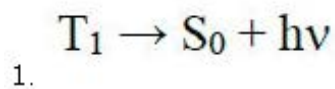


Question Number : 159 Question Id : 623217703 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

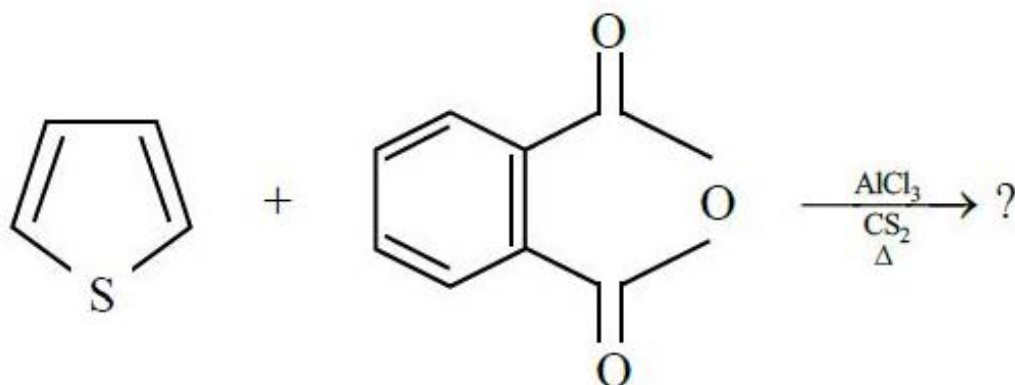
“Phosphorescence” is represented as

Options :



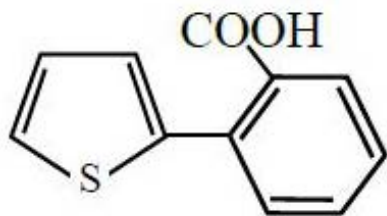
Question Number : 160 Question Id : 623217704 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

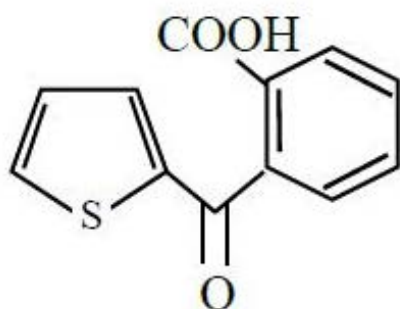


Options :

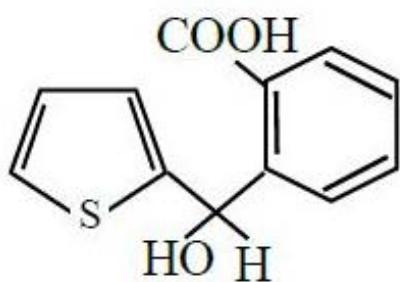
1.



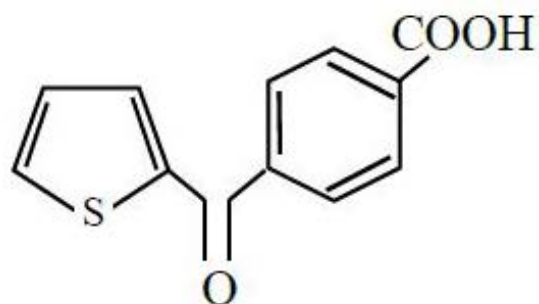
2.



3.



4.



Question Number : 161 Question Id : 623217705 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Nicotinic acid reacts with sodalime to give

Options :

1.

pyrrole

2.

piperidine

3.

pyridine

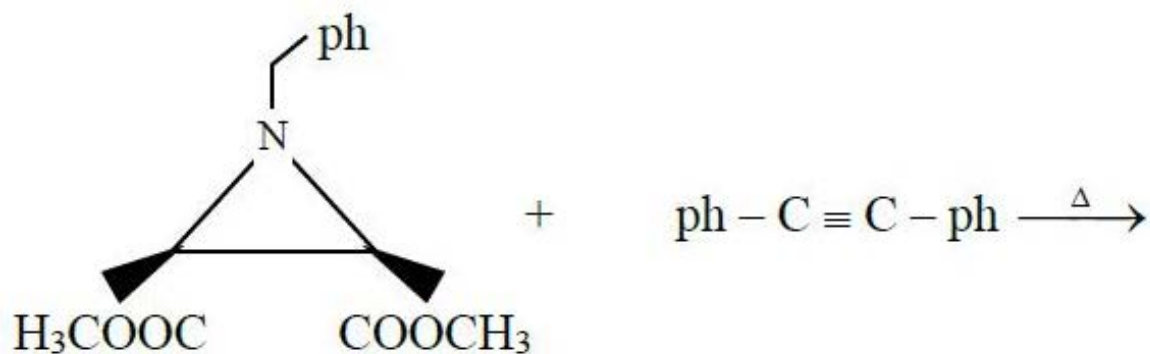
pyrrolidine

4.

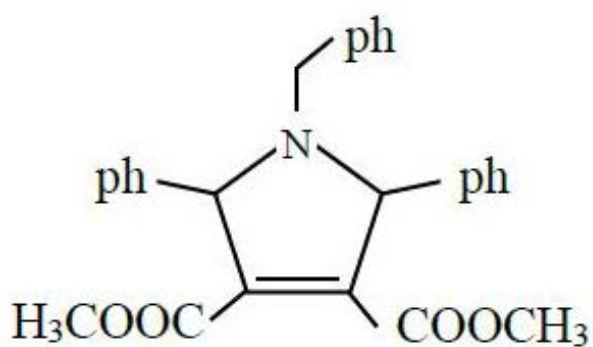
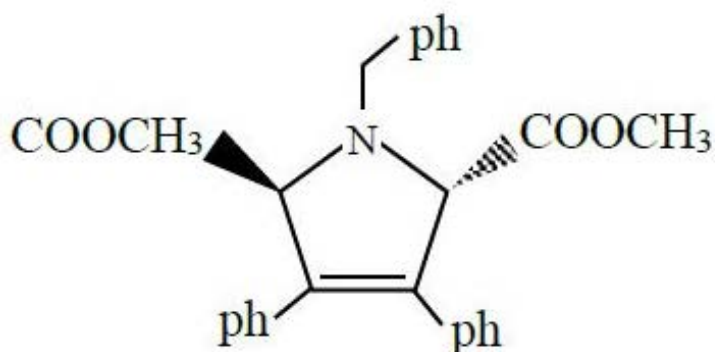
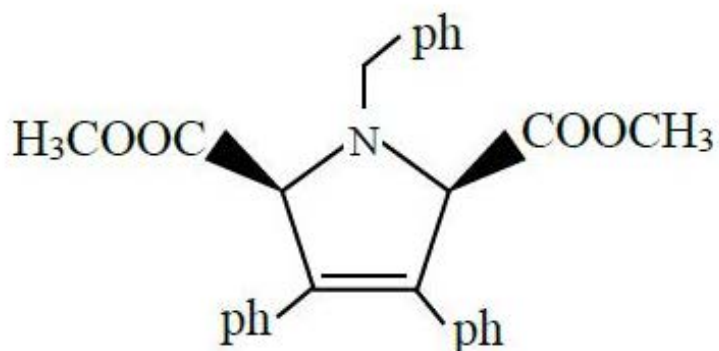
Question Number : 162 Question Id : 623217706 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

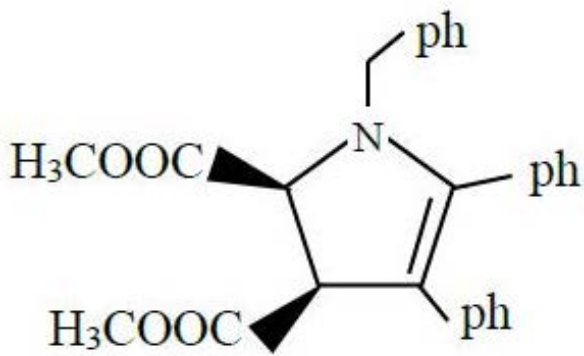
Wrong Marks : 0

The major product formed in the following reaction is



Options :





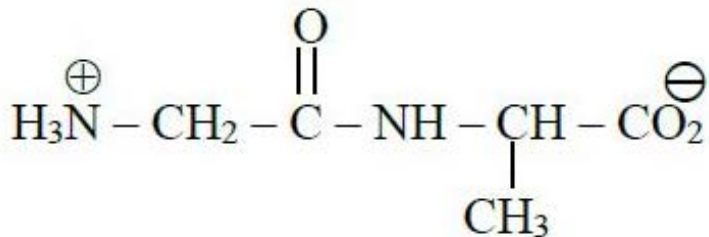
4.

Question Number : 163 Question Id : 623217707 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

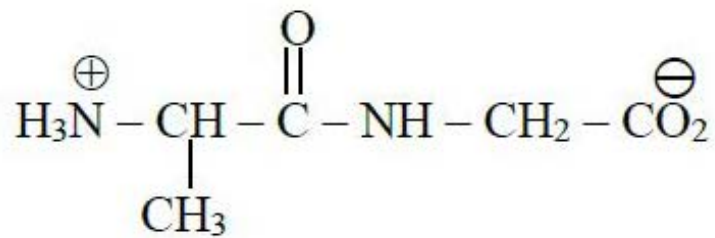
Wrong Marks : 0

(Gly-Ala) dipeptide the structure is

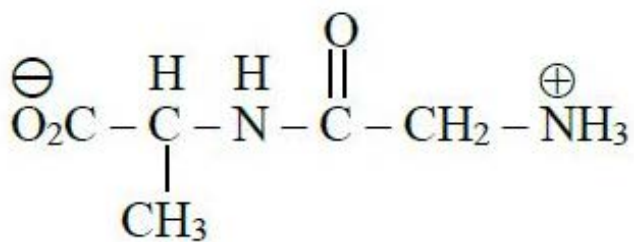
Options :



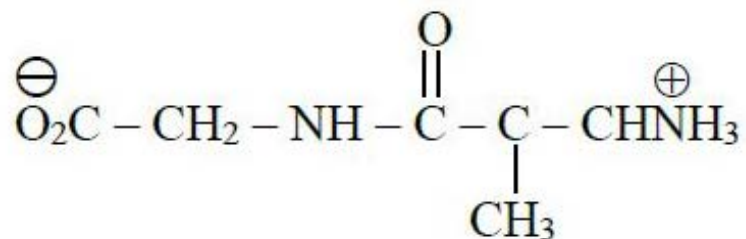
1.



2.



3.



4.

Question Number : 164 Question Id : 623217708 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following methods is/are used for isolation of terpenoids?

Options :

1. Steam distillation
2. Solvent extraction
3. Enfleurage process
4. All of the other options

Question Number : 165 Question Id : 623217709 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following is used as a local anaesthetic?

Options :

1. Quinine
2. Reserpine
3. Cocaine
4. Morphine

Question Number : 166 Question Id : 623217710 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Select the correct pair of statements.

- I. Complementary strands run antiparallel in a double stranded DNA
- II. The triplet codons, represented by the genetic code, are expressed by ribonucleic acid.
- III. t-RNA carries the genetic information to the site of DNA replication
- IV. A nucleoside contains a ribose or deoxyribose and phosphate constituents only

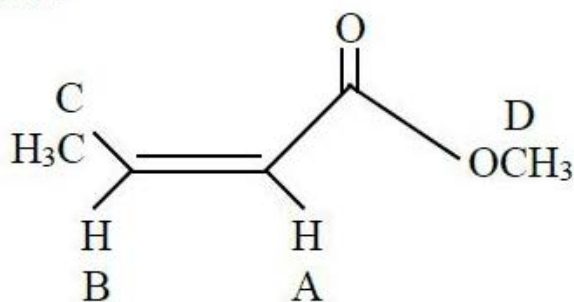
Options :

1. I, II
2. II, III
3. III, IV
4. I, IV

Question Number : 167 Question Id : 623217711 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Appropriate ^1H NMR chemical shifts (δ) for the protons A-D for the following compound are



Options :

1. A – 5.7; B – 6.8; C – 3.9; D – 2.1 ppm
2. A – 6.8; B – 5.7; C – 3.9; D – 2.1 ppm
3. A – 5.7; B – 6.8; C – 2.1; D – 3.9 ppm
4. A – 6.8; B – 5.7; C – 2.1; D – 3.9 ppm

Question Number : 168 Question Id : 623217712 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

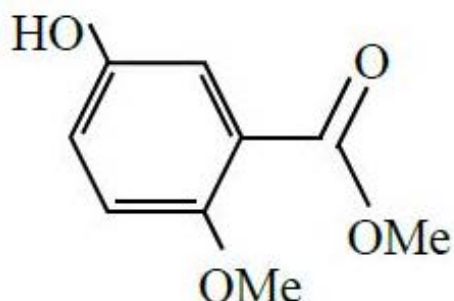
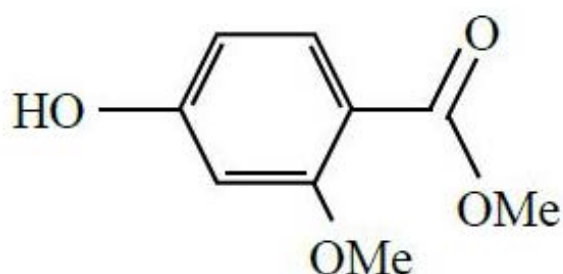
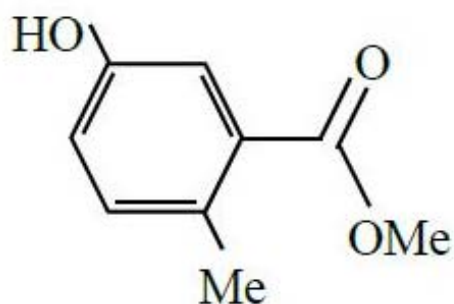
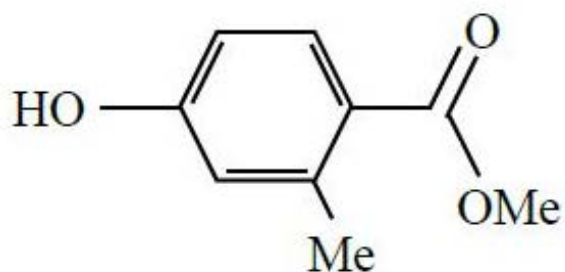
An organic compound (C₉H₁₀O₃) exhibited the following spectral data:

IR : 3400, 1680 cm⁻¹

¹H NMR : 6.7.8 (1H, d, J = 8 Hz), 7.0(1H, d, J = 8 Hz), 6.5(1H, S)

5.8(1H, S, D₂O exchangeable), 3.9(3H, S), 2.3(3H, S)

Options :



Question Number : 169 Question Id : 623217713 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Match the following:

	<u>Column-I</u> (spectroscopy)	<u>Column-II</u> (selection rule)
A.	Vibrational	1. $\Delta V = \pm 1$
B.	Pure rotational (for linear molecule)	2. $\Delta J \neq 1$
C.	NMR	3. $\Delta M_I = \pm 1$
D.	EPR	4. $\Delta m_s = \pm 1$

Options :

1. A-1 B-2 C-3 D-4

2. A-1 B-3 C-2 D-4

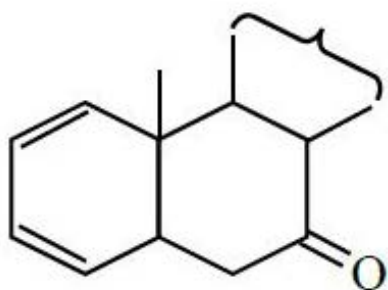
3. A-4 B-3 C-2 D-1

4. A-1 B-4 C-3 D-2

Question Number : 170 Question Id : 623217714 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

The expected position of the λ_{\max} in the following trienones is



Options :

1. 244 nm

2. 349 nm

305 nm

3.

360 nm

4.

Question Number : 171 Question Id : 623217715 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Which of the following statements is not correct for nano materials?

Options :

1. Nanotubes are really strong

1.

2. Thermal properties of nanotubes depend on size

2.

3. Nanotubes are not used as cathodes for electron emitting devices

3.

4. Cutting tools made of nano crystalline materials

4.

Question Number : 172 Question Id : 623217716 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Material in nanophase employed in the manufacture of ceramic capacitors is

Options :

1. ZnO

1.

2. BaTiO₃

2.

3. ZnO ZrO₂

3.

4. Cu-Fe alloy

4.

Question Number : 173 Question Id : 623217717 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Green chemistry aims to

Options :

1. grow trees around chemical factories
2. reduce environmental degradation
3. increase costs of chemical process
4. increase efficiency of chemical synthesis

Question Number : 174 Question Id : 623217718 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

Heterogeneous catalysis involves

Options :

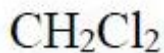
1. surface modification using silica base
2. performing catalytic reaction at freezing conditions
3. solidification of liquid catalyst
4. using gaseous catalytic for gaseous reactants

Question Number : 175 Question Id : 623217719 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

Hypnotic property is maximum in

Options :

1. CHI_3
2. CHCl_3
3. CHBr_3



4.

Question Number : 176 Question Id : 623217720 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

A drug that antipyretic as well as analgesic is

Options :

Chloroquin

1.

Penicillin

2.

Chloropromazine hydro chloride

3.

Para-acetamidophenol

4.

Question Number : 177 Question Id : 623217721 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

Ion-ion interactions are example for

Options :

covalent interactions

1.

non ionic interactions

2.

non covalent interactions

3.

London forces

4.

Question Number : 178 Question Id : 623217722 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Wrong Marks : 0

In Host-Guest chemistry, which is smaller in size?

Options :

1. Guest
2. Host
3. Guest and Host are equal size
4. Cannot be decided

Question Number : 179 Question Id : 623217723 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

During Bhopal tragedy the gas released was

Options :

1. Potassium isothiocyanate
2. Phosgene
3. Methyl isocyanate
4. Ammonia

Question Number : 180 Question Id : 623217724 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Wrong Marks : 0

Which of the following gas reacts with haemoglobin blood and produce toxic effect?

Options :

1. CO_2
2. SO_2
3. NO_2

4. CO