

Telangana State Council Higher Education

Notations :

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

| | |
|-----------------------------------------|----------------------------------------------------------|
| Question Paper Name : | Agriculture and Medical English 30th Jul 2022 Shift 1 |
| Subject Name : | Agriculture and Medical (English) |
| Creation Date : | 2022-07-30 16:31:36 |
| Duration : | 180 |
| Total Marks : | 160 |
| Display Marks: | No |
| Calculator : | None |
| Magnifying Glass Required? : | No |
| Ruler Required? : | No |
| Eraser Required? : | No |
| Scratch Pad Required? : | No |
| Rough Sketch/Notepad Required? : | No |
| Protractor Required? : | No |
| Show Watermark on Console? : | Yes |
| Highlighter : | No |
| Auto Save on Console? | Yes |
| Change Font Color : | No |
| Change Background Color : | No |
| Change Theme : | No |
| Help Button : | No |
| Show Reports : | No |

Show Progress Bar : No

Agriculture and Medical (English)

Group Number : 1
Group Id : 10561510
Group Maximum Duration : 0
Group Minimum Duration : 180
Show Attended Group? : No
Edit Attended Group? : No
Break time : 0
Group Marks : 160
Is this Group for Examiner? : No
Examiner permission : Cant View
Show Progress Bar? : No

Botany

Section Id : 10561528
Section Number : 1
Section type : Online
Mandatory or Optional : Mandatory
Number of Questions : 40
Number of Questions to be attempted : 40
Section Marks : 40
Enable Mark as Answered Mark for Review and Clear Response : Yes
Maximum Instruction Time : 0
Sub-Section Number : 1
Sub-Section Id : 10561528

Question Shuffling Allowed :

Yes

**Question Number : 1 Question Id : 1056151441 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0**

In which of the following organism the reproduction is synonymous with growth?

Options :

1. ✓ **Unicellular alga**

2. ✘ **Yeast**

3. ✘ **Mules**

4. ✘ **Hydra**

**Question Number : 2 Question Id : 1056151442 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0**

What is the character of the organism from which first antibiotic was discovered?

Options :

1. ✘

Exogenous production of sexual spores

Endogenous production of asexual spores

2. ✘

Presence of two nucleated cells during sexual reproduction

3. ✔

Synthesizes its own food

4. ✘

Question Number : 3 Question Id : 1056151443 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Match the following :

List-I

List-II

- | | |
|-----------------------------|----------------------------------|
| A) Bioremediation | I) Iodine |
| B) Intense green plantation | II) Controls soil pollution |
| C) Biofertilizer | III) Prevents chemical pollution |
| D) Sea weeds | IV) Controls greenhouse effect |

The correct match is:

Options :

1. ✔

| | | | |
|----|----|-----|---|
| A | B | C | D |
| II | IV | III | I |

2. ✘

| | | | |
|----|-----|----|---|
| A | B | C | D |
| II | III | IV | I |

3. ✘

| | | | |
|----|---|-----|----|
| A | B | C | D |
| IV | I | III | II |

4. ✘

| | | | |
|---|----|----|-----|
| A | B | C | D |
| I | IV | II | III |

Question Number : 4 Question Id : 1056151444 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Which of the following is another character of an aquatic organism having r-phycoerythrin predominately in its body?

Options :

The structure of stored food resembles the energy stored food of an animal

1. ✔

2. ✘

Fertilization takes place between similar gametes

Cell wall consisting of cellulose and pectin only

3. ✘

Flagellated spermatium

4. ✘

Question Number : 5 Question Id : 1056151445 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Match the following:

| List-I | List-II | List-III |
|---------------------|-----------------|--------------------------|
| A) Hepaticopsida | i) Fern | I) Horn-like Saprophytes |
| B) Anthocerotopsida | ii) Moss | II) Gemmae |
| C) Bryopsida | iii) Liverworts | III) False indusium |
| D) Pteropsida | iv) Hornworts | IV) Protonema |

The correct match is:

Options :

| A | B | C | D |
|---------|-------|--------|--------|
| iii, II | iv, I | ii, IV | i, III |

1. ✔

2. ✘

| | | | |
|--------|---------|--------|-------|
| A | B | C | D |
| iii, I | iv, III | ii, II | i, IV |

| | | | |
|--------|-------|---------|--------|
| A | B | C | D |
| ii, IV | iv, I | iii, II | i, III |

3. ✘

| | | | |
|---------|--------|--------|-------|
| A | B | C | D |
| iii, II | i, III | ii, IV | iv, I |

4. ✘

Question Number : 6 Question Id : 1056151446 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Match the following:

| List -I | List - II |
|---------------------|--------------------------|
| A) Solitary cyme | I) <i>Ipomoea</i> |
| B) Monochasial cyme | II) <i>Bougainvillea</i> |
| C) Polychasial cyme | III) <i>Datura</i> |
| D) Dichasial cyme | IV) <i>Solanum</i> |
| E) Cymule | V) <i>Nerium</i> |

The correct match is:

Options :

1. ✘

| | | | | |
|-----|----|---|---|----|
| A | B | C | D | E |
| III | IV | I | V | II |

2. ✘

| | | | | |
|-----|---|----|---|----|
| A | B | C | D | E |
| III | I | IV | V | II |

3. ✘

| | | | | |
|----|---|-----|----|---|
| A | B | C | D | E |
| II | V | III | IV | I |

4. ✔

| | | | | |
|-----|----|---|---|----|
| A | B | C | D | E |
| III | IV | V | I | II |

Question Number : 7 Question Id : 1056151447 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Match the following :

| List - I | List - II |
|--------------------------|------------------------|
| A) Valvate corolla | I) Gulmohur |
| B) Funnel shaped corolla | II) Vexillary |
| C) Papilionaceous flower | III) <i>Calotropis</i> |
| D) Imbricate aestivation | IV) <i>Datura</i> |

The correct match is:

Options :

1. ✘
A B C D
III II IV I

2. ✔
A B C D
III IV II I

3. ✘
A B C D
I IV II III

4. ✘
A B C D
I II IV III

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

Correct Marks : 1 Wrong Marks : 0

Match the following:

| List -I | | List - II | |
|---------|---------------------|-----------|----------------------------------------------------------------|
| A) | <i>Viola</i> | I) | Transfer of pollen from one flower to stigma of another flower |
| B) | Abiotic pollination | II) | Anemophily |
| C) | Xenogamy | III) | <i>Vallisneria</i> |
| D) | Epiphytily | IV) | Chasmogamy and cleistogamy |

The correct match is:

Options :

1. ✘

| | | | |
|---|----|-----|----|
| A | B | C | D |
| I | II | III | IV |

2. ✔

| | | | |
|----|----|---|-----|
| A | B | C | D |
| IV | II | I | III |

3. ✘

| | | | |
|----|---|----|-----|
| A | B | C | D |
| IV | I | II | III |

4. ✘

| | | | |
|----|----|---|-----|
| A | B | C | D |
| II | IV | I | III |

Question Number : 9 Question Id : 1056151449 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Identify the character of aleurone layer from the following:

- A) Presence of glycosidic bonds.
- B) Consists of amino acids.
- C) Bonds between base and acid form polymers.
- D) It separates endosperm with embryo in maize.

Options :

A, B, C only

1. ✘

A, C, D only

2. ✘

B, C, D only

3. ✔

A, B, D only

4. ✘

Question Number : 10 Question Id : 1056151450 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

The number of cohorts in calyciflorae and heteromerae of Bentham and Hooker classification respectively are :

Options :

5 and 3

1. ✓

3 and 5

2. ✗

3 and 3

3. ✗

3 and 4

4. ✗

Question Number : 11 Question Id : 1056151451 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Identify the correct sequence of plants having bulb, corm, rhizome and cladophylls.

Options :

Ruscus, Gloriosa, Colchicum and Lilium

1. ✗

Gloriosa, Ruscus Colchicum and Lilium

2. ✗

Lilium, Gloriosa, Colchicum and Ruscus

3. ✗

Lilium, Colchicum, Gloriosa and Ruscus

4. ✓

Question Number : 12 Question Id : 1056151452 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following show the presence of chromatophores?

Options :

Photosynthetic autotrophic eubacteria

1. ✓

Heterotrophic bacteria

2. ✘

Chemosynthetic autotrophic bacteria

3. ✘

Branched filamentous bacteria

4. ✘

Question Number : 13 Question Id : 1056151453 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Match the following lists :

List -I

List -II

- | | |
|---------------------------------|----------------------------------------|
| A) Tonoplast | I) Modification of proteins |
| B) Stroma | II) Enzymes for catabolism |
| C) Cisternae of golgi apparatus | III) Connection between adjacent cells |
| D) Plasmodesmata | IV) Osmoregulation |
| | V) Enzymes for anabolism |

The correct match is:

Options :

| | | | |
|----|---|---|-----|
| A | B | C | D |
| IV | V | I | III |

1. ✓

| | | | |
|----|-----|----|---|
| A | B | C | D |
| IV | III | II | I |

2. ✗

| | | | |
|---|----|---|-----|
| A | B | C | D |
| V | II | I | III |

3. ✗

| | | | |
|----|---|----|---|
| A | B | C | D |
| II | V | IV | I |

4. ✗

Question Number : 14 Question Id : 1056151454 Question Type : MCQ Option Shuffling : Yes

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

Correct Marks : 1 Wrong Marks : 0

Assertion (A) : Lysosomes are capable of digesting proteins, lipids and nucleic acids.

Reason (R) : Lysosomes are rich in hydrolytic enzymes.

The correct option among the following is:

Options :

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

1. ✓

(A) is true, (R) is true but (R) is not the correct explanation of (A)

2. ✘

(A) is true but (R) is false

3. ✘

(A) is false but (R) is true

4. ✘

Question Number : 15 Question Id : 1056151455 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Match the following:

| List - I | | List - II | |
|----------|----------|-----------|-------------------------|
| A) | Glut - 4 | I) | Hormone |
| B) | Insulin | II) | Enzyme |
| C) | Trypsin | III) | Glucose transport |
| D) | Collagen | IV) | Intercellular substance |

The correct match is:

Options :

| | | | |
|-----|---|----|----|
| A | B | C | D |
| III | I | II | IV |

1. ✓

| | | | |
|-----|----|---|----|
| A | B | C | D |
| III | II | I | IV |

2. ✘

| | | | |
|----|-----|---|----|
| A | B | C | D |
| II | III | I | IV |

3. ✘

| | | | |
|----|---|-----|----|
| A | B | C | D |
| IV | I | III | II |

4. ✘

Question Number : 16 Question Id : 1056151456 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

Which of the following statements is not correct on lipids?

Options :

Glycerol is a simple lipid which is a trihydroxy propane

1. ✘

Gingelly oil remain as oil in winter months due to its higher melting point

2. ✔

Fats have higher melting points than oils

3. ✘

Lecithin is a phospholipid in cell membrane

4. ✘

Question Number : 17 Question Id : 1056151457 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

Assertion (A) : The amount of DNA in the cell undergoing a mitotic cell division is doubled during the S-phase.

Reason(R) : It happens due to the doubling of the chromosome number in the S-Phase of Interphase.

The correct option among the following is:

Options :

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

1. ✘

(A) is true, (R) is true but (R) is not the correct explanation of (A)

2. ✘

(A) is true but (R) is false

3. ✔

(A) is false but (R) is true

4. ✘

Question Number : 18 Question Id : 1056151458 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following tissues are present in dicot stem but absent in monocot stem?

Options :

Collenchymatous outer cortex and starch sheath

1. ✔

Sclerenchymatous hypodermis and starch sheath

2. ✘

3. ✘

Large central pith and closed vascular bundles

Epidermis and conjoint vascular bundles

4. ✘

Question Number : 19 Question Id : 1056151459 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Identify free floating hydrophyte from the following.

Options :

Lemna

1. ✔

Hydrilla

2. ✘

Utricularia

3. ✘

Vallisneria

4. ✘

Question Number : 20 Question Id : 1056151460 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

Identify the correct sequence of plants showing the characters given below.

- A) Sunken stomata
- B) Poorly developed mechanical tissue
- C) Plants with mucilage

Options :

Casuarina, Hydrilla, Aloe

1. ✓

Tribulus, Aloe, Hydrilla

2. ✘

Aloe, Tribulus, Hydrilla

3. ✘

Casuarina, Aloe, Opuntia

4. ✘

Question Number : 21 Question Id : 1056151461 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Assertion (A) : Under anaerobic and aerobic condition lactic acid and pyruvic acid formed respectively in skeletal muscle whereas in yeast during fermentation ethanol is formed.

Reason(R) : Metabolic pathways give variety of products based on conditions.

The correct option among the following is:

Options :

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

1. ✓

(A) is true. (R) is true but (R) is not the correct explanation of (A)

2. ✗

(A) is true but (R) is false

3. ✗

(A) is false but (R) is true

4. ✗

Question Number : 22 Question Id : 1056151462 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Choose the incorrect statements from the following:

- A) Half leaf experiments proved that O_2 is required for photosynthesis.
- B) Ingenhousz showed that aquatic plant produces bubbles of oxygen in light.
- C) Bell jar experiment of Hill indicated that plants restore the air whatever breathing by animals.
- D) Sach's experiment showed that chlorophyll is located in special bodies in leaves.

Options :

A, B only

1. ✘

C, D only

2. ✘

A, C only

3. ✔

B, D only

4. ✘

Question Number : 23 Question Id : 1056151463 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The movement of electrons from P_{680} to pheophytin and pheophytin to P_{700} are respectively:

Options :

1. ✔

Uphill and Downhill

Downhill and Uphill

2. ✖

Uphill and Uphill

3. ✖

Downhill and Downhill

4. ✖

Question Number : 24 Question Id : 1056151464 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following statements are false regarding C₄ plants?

- A) C₄ plants lack photorespiration and have lesser biomass production.
- B) Bundle sheath cells contain large number of chloroplasts.
- C) Mesophyll cells consists of RuBisCO enzyme.
- D) The primary CO₂ acceptor is a 4-carbon molecule.

Options :

A, B, C only

1. ✖

A, B, D only

2. ✖

A, C, D only

3. ✓

B, C, D only

4. ✗

Question Number : 25 Question Id : 1056151465 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Which of the following statements are false regarding photorespiration?

- A) Synthesis of neither sugars nor ATP occur in photorespiration.
- B) Photorespiration does occur in C_4 plants due to concentration of O_2 at the active site of RuBisCO.
- C) In photorespiration, 2 molecules of PGA are formed from a RuBP molecule.
- D) In C_3 plants, photorespiration is responsible for decreased productivity.

Options :

A, B only

1. ✗

B, D only

2. ✗

B, C only

3. ✓

4. ✗

A, D only

Question Number : 26 Question Id : 1056151466 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Arrange the following substances in a sequence those are formed in EMP pathway, due to the transfer of a group between a pair of substrates with the activity of enzymes.

- A) Fructose 1, 6 – bisphosphate
- B) Fructose – 6 – phosphate
- C) Glucose – 6 – phosphate
- D) Phosphoenol pyruvate
- E) 3 – Phosphoglyceric acid

The correct answer is :

Options :

D, E, A only

1. ✘

C, B, A, E only

2. ✘

C, A, E only

3. ✔

B, A, D only

4. ✘

Question Number : 27 Question Id : 1056151467 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Choose incorrect statement from the following:

Options :

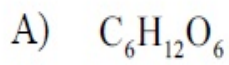
1. ✘ Ubiquinones also receive reducing equivalents from Complex II
2. ✘ In coupled reaction of GDP formation, ATP is synthesised
3. ✘ The first member of the TCA cycles is Oxaloacetic acid
4. ✔ Pyruvic acid will be moved into the TCA Cycle or Krebs Cycle

Question Number : 28 Question Id : 1056151468 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

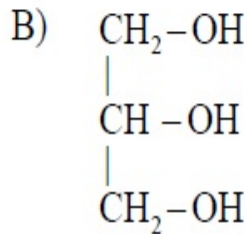
Match the following lists :

List –I
(compound)

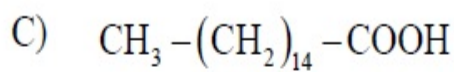
List –II
(Enters the respiratory pathway as)



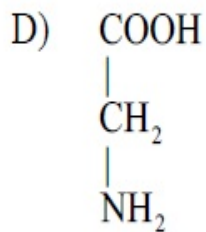
I) PGAL



II) Glucose – 6 – phosphate



III) Pyruvate



IV) Acetyl CoA

The correct match is:

Options :

| | | | |
|----|-----|----|---|
| A | B | C | D |
| II | III | IV | I |

1. ✘

| | | | |
|----|---|----|-----|
| A | B | C | D |
| II | I | IV | III |

2. ✔

| | | | |
|----|---|----|-----|
| A | B | C | D |
| IV | I | II | III |

3. ✘

| | | | |
|----|-----|----|---|
| A | B | C | D |
| IV | III | II | I |

4. ✘

Question Number : 29 Question Id : 1056151469 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Assertion (A) : The decapitation is practiced to encourage growth of lateral buds in Tea plantation and in hedge making.

Reason (R) : Cytokinins help to overcome the apical dominance.

The correct option among the following is:

Options :

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

1. ✘

(A) is true. (R) is true but (R) is not the correct explanation of (A)

2. ✔

(A) is true but (R) is false

3. ✘

(A) is false but (R) is true

4. ✘

Question Number : 30 Question Id : 1056151470 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Which of the following character was not a part of Mendel' s experiments?

Options :

Seed shape

1. ✘

Pod shape

2. ✘

Flower position

3. ✘

Seed size

4. ✔

Question Number : 31 Question Id : 1056151471 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

The following phenotypic results are obtained when a pea plant with round and yellow seeds is crossed to another pea plant with wrinkled and yellow seeds.

| Round and Yellow | Round and green | Wrinkled and green | Wrinkled and Yellow |
|------------------|-----------------|--------------------|---------------------|
| 3 | 1 | 1 | 3 |

Identify the genotypes of the plants involved in the cross.

Options :

$$Rr Yy \times rrYY$$

1. ✘

$$Rr Yy \times rrYy$$

2. ✔

$$Rr YY \times rr Yy$$

3. ✘

$$RRYy \times rrYy$$

4. ✘

Question Number : 32 Question Id : 1056151472 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

Match the following :

| List-I | | List-II | |
|----------------------------------------------------|-----------------------------------------------------|---------|--|
| A) Free phosphate moiety polymer | I) From RNA to DNA | | |
| B) Free OH group end | II) 5 ¹ end of the polynucleotide chain | | |
| C) The right handed fashion coiling | III) 3 ¹ end of the polynucleotide chain | | |
| D) The flow of information of gene in Retroviruses | IV) Helix has 3.4 nm pitch | | |

The correct match is:

Options :

| | | | |
|---|----|----|-----|
| A | B | C | D |
| I | IV | II | III |

1. ✘

| | | | |
|----|-----|----|---|
| A | B | C | D |
| IV | III | II | I |

2. ✘

| | | | |
|----|----|-----|---|
| A | B | C | D |
| II | IV | III | I |

3. ✘

| | | | |
|----|-----|----|---|
| A | B | C | D |
| II | III | IV | I |

4. ✔

Question Number : 33 Question Id : 1056151473 Question Type : MCQ Option Shuffling : Yes

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

Correct Marks : 1 Wrong Marks : 0

Assertion (A) : RNA molecule is stable because it participate in reactions.

Reason (R) : RNA act as genetic material and also as a catalyst.

The correct option among the following is:

Options :

(A) is true. (R) is true and (R) is the correct explanation for (A)

1. ✘

(A) is true. (R) is true but (R) is not the correct explanation for (A)

2. ✘

(A) is true but (R) is false

3. ✘

(A) is false but (R) is true

4. ✔

Question Number : 34 Question Id : 1056151474 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Assertion (A) : Each operon has its specific operator and specific repressor.

Reason (R) : Lac operator is present only in the Lac operon and it interacts specifically with Lac repressor only.

The correct option among the following is:

Options :

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

1. ✓

(A) is true. (R) is true but (R) is not the correct explanation of (A)

2. ✘

(A) is true but (R) is false

3. ✘

(A) is false but (R) is true

4. ✘

Question Number : 35 Question Id : 1056151475 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The first recombinant DNA was constructed using plasmid of the following bacterium

Options :

Escherichia coli

1. ✘

Salmonella typhimurium

2. ✓

Agrobacterium tumifaciens

3. ✘

Streptococcus pneumoniae

4. ✘

Question Number : 36 Question Id : 1056151476 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

The following enzymes are used to digest the cell wall of a bacterium, green plant and fungi respectively

- A) Lysozyme
- B) Cellulase
- C) Chitinase

Options :

B, A, C

1. ✘

A, C, B

2. ✘

3. ✘

C, A, B

A, B, C

4. ✓

Question Number : 37 Question Id : 1056151477 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

A foreign DNA is ligated at Pst site of pBR₃₂₂ plasmid then introduced into *E. coli* cells. Which of the following statements identifies the chimaeric vector *E. coli* cells?

Options :

Growth of *E. coli* cells on ampicillin containing medium but not on tetracycline containing medium but not on ampicillin containing medium

1. ✘

Growth of *E. coli* cells on tetracycline containing medium but not on ampicillin containing medium

2. ✓

Growth of *E. coli* cells on both ampicillin and tetracycline media

3. ✘

Using ampicillin resistant gene as selectable marker

4. ✘

Question Number : 38 Question Id : 1056151478 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Choose the correct statement from the following:

Options :

Gene therapy involves ELISA technique to treat non-functional gene.

1. ✘

A and B chains of human insulin was produced separately in *E. coli*; these were extracted and combined by disulphide bond to form human insulin.

2. ✔

Parentage dispute will be solved by RNA interference technique.

3. ✘

Transgenic papaya is resistant to *Pseudomonas* pathogen.

4. ✘

Question Number : 39 Question Id : 1056151479 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Match the following lists :

List –I

List –II

(Varieties of cereal)

(Developed in)

- | | |
|-----------------------|------------------|
| A) 1R8 | I) Mexico |
| B) Semidwarf wheat | II) India |
| C) Taichung Native -1 | III) Philippines |
| D) Ratna | IV) Taiwan |
| | V) U. S. A |

The correct match is :

Options :

| | | | |
|-----|---|---|----|
| A | B | C | D |
| III | V | I | IV |

1. ✘

| | | | |
|----|-----|----|---|
| A | B | C | D |
| II | III | IV | I |

2. ✘

| | | | |
|-----|---|----|----|
| A | B | C | D |
| III | I | IV | II |

3. ✔

| | | | |
|---|---|----|----|
| A | B | C | D |
| V | I | IV | II |

4. ✘

Question Number : 40 Question Id : 1056151480 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

Assertion (A) : Baculoviruses are used as biological control agents in plants and animals.

Reason(R) : They have species specific narrow spectrum insecticidal application.

The correct option among the following is:

Options :

1. ✘ (A) is true. (R) is true and (R) is the correct explanation of (A)

2. ✘ (A) is true. (R) is true but (R) is not the correct explanation of (A)

3. ✘ (A) is true but (R) is false

4. ✔ (A) is false but (R) is true

Zoology

| | |
|----------------------------------------------|-----------|
| Section Id : | 10561529 |
| Section Number : | 2 |
| Section type : | Online |
| Mandatory or Optional : | Mandatory |
| Number of Questions : | 40 |
| Number of Questions to be attempted : | 40 |

| | |
|---------------------------------------------------------------------|----------|
| Section Marks : | 40 |
| Enable Mark as Answered Mark for Review and Clear Response : | Yes |
| Maximum Instruction Time : | 0 |
| Sub-Section Number : | 1 |
| Sub-Section Id : | 10561529 |
| Question Shuffling Allowed : | Yes |

Question Number : 41 Question Id : 1056151481 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Theory and practice of identification, nomenclature and classification of organisms is called

Options :

Morphology

1. ✘

Anatomy

2. ✘

Taxonomy

3. ✔

Ecology

4. ✘

Question Number : 42 Question Id : 1056151482 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Assertion (A) : Species is an ecological unit.

Reason (R) : They are reproductively isolated from the individuals of other species.

The correct option among the following is

Options :

(A) is true, (R) is true and (R) is the correct explanation for (A)

1. ✘

(A) is true, (R) is true but (R) is not the correct explanation for (A)

2. ✔

(A) is true but (R) is false

3. ✘

(A) is false but (R) is true

4. ✘

Question Number : 43 Question Id : 1056151483 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Match the following :

- | List - I | | List - II | |
|----------|---------------------------|-----------|-----------------------------|
| A) | Habitat loss | I) | Passenger pigeon |
| B) | Over-exploitation | II) | Plant-pollination mutualism |
| C) | Invasion of alien species | III) | Loss of biodiversity |
| D) | Co-extinction | IV) | Nile perch |
| | | V) | Niche specialisation |

The correct match is

Options :

1. ✖

| | | | |
|---|----|----|-----|
| A | B | C | D |
| I | II | IV | III |

2. ✖

| | | | |
|---|----|-----|----|
| A | B | C | D |
| V | II | III | IV |

3. ✔

| | | | |
|-----|---|----|----|
| A | B | C | D |
| III | I | IV | II |

4. ✖

| | | | |
|----|-----|---|----|
| A | B | C | D |
| IV | III | V | II |

Question Number : 44 Question Id : 1056151484 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

The lowest level of organisation among eumetazoans is

Options :

Cellular level

1. ✘

Tissue level

2. ✔

Organ level

3. ✘

Organ – system level

4. ✘

Question Number : 45 Question Id : 1056151485 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

Study the following and pick up the correct statements:

- I) Most of the adult gastropods exhibit asymmetry
- II) In schizocoelomates, 4d cell forms the mesoderm
- III) Cnidarians are eucoelomates
- IV) Nematodes are acoelomates

Options :

I, II only

1. ✓

II, III only

2. ✘

III, IV only

3. ✘

I, IV only

4. ✘

Question Number : 46 Question Id : 1056151486 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Match the following :

| Gland | Type |
|--------------------|-----------------------|
| A) Pancreas | I) Holocrine gland |
| B) Mammary gland | II) Endocrine gland |
| C) Sebaceous gland | III) Merocrine gland |
| D) Thyroid gland | IV) Unicellular gland |
| | V) Apocrine gland |

The correct match is

Options :

1. ✘

| | | | |
|-----|---|----|----|
| A | B | C | D |
| III | V | IV | II |

2. ✘

| | | | |
|----|---|---|-----|
| A | B | C | D |
| II | I | V | III |

3. ✔

| | | | |
|-----|---|---|----|
| A | B | C | D |
| III | V | I | II |

4. ✘

| | | | |
|----|----|-----|---|
| A | B | C | D |
| IV | II | III | I |

Question Number : 47 Question Id : 1056151487 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Pick up the wrongly matched pair.

Options :

Astrocytes – Blood brain barrier

1. ✘

Oligodendrocytes – Form neurilemma

2. ✔

Microglia – Phagocytic cells

3. ✘

Ependymal cells – Movement of cerebrospinal fluid

4. ✘

Question Number : 48 Question Id : 1056151488 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Match the following :

| List-I | | List-II | |
|--------|------------------|---------|-------------|
| A) | <i>Obelia</i> | I) | Sea anemone |
| B) | <i>Adamsia</i> | II) | Sea pen |
| C) | <i>Pennatula</i> | III) | Sea fan |
| D) | <i>Gorgonia</i> | IV) | Sea fur |

The correct match is

Options :

| | | | |
|----|---|-----|----|
| A | B | C | D |
| IV | I | III | II |

1. ✘

| | | | |
|----|----|---|-----|
| A | B | C | D |
| IV | II | I | III |

2. ✘

| | | | |
|----|---|----|-----|
| A | B | C | D |
| IV | I | II | III |

3. ✓

| | | | |
|---|----|-----|----|
| A | B | C | D |
| I | IV | III | II |

4. ✘

Question Number : 49 Question Id : 1056151489 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Study the following and pick up the incorrect statement.

Options :

In *Pheretima*, integumentary nephridia are found in 4th, 5th and 6th segments only

1. ✓

Tubifex is an oligochaete found in fresh water

2. ✘

Trichinella is a round worm included in class Aphasmodia

3. ✘

Cestodes exhibit pseudometamerism

4. ✘

Question Number : 50 Question Id : 1056151490 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Study the following statements regarding unisexual annelids.

- I) These are bristle worms
- II) Gonoducts are present
- III) Head is distinct with sense organs
- IV) Internal fertilisation

The correct statements are

Options :

1. ✓ I, III only

2. ✘ II, IV only

3. ✘ I, II only

4. ✘ III, IV only

Question Number : 51 Question Id : 1056151491 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Assertion (A) : *Ascidia* is included in Urochordata.

Reason (R) : Tail of its larva contains the notochord.

The correct option among the following is

Options :

(A) is true, (R) is true and (R) is the correct explanation for (A)

1. ✓

(A) is true, (R) is true but (R) is not the correct explanation for (A)

2. ✗

(A) is true but (R) is false

3. ✗

(A) is false but (R) is true

4. ✗

Question Number : 52 Question Id : 1056151492 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Study the following table and pick up the correct combinations.

| S.No | Group | Salient feature | Example |
|------|----------------|-------------------------|-------------------|
| I) | Cyclostomata | Tongue with horny teeth | <i>Myxine</i> |
| II) | Pisces | Dicondylic skull | <i>Petromyzon</i> |
| III) | Chondrichthyes | Claspers in male | <i>Scoliodon</i> |
| IV) | Osteichthyes | Presence of operculum | <i>Torpedo</i> |

Options :

1. ✓ I, III

2. ✗ II, IV

3. ✗ I, II

4. ✗ III, IV

Question Number : 53 Question Id : 1056151493 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Study the following statements about the endoskeleton of birds.

- I) Skull is dicondylic.
- II) Ribs are single headed.
- III) Clavicles along with interclavicle form furcula.
- IV) Heterocoelous vertebrae.

Identify correct statements from the above.

Options :

I, II only

1. ✘

III, IV only

2. ✔

I, III only

3. ✘

II, IV only

4. ✘

**Question Number : 54 Question Id : 1056151494 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0**

Read the following statements and find out correct statements.

- I) Elephantiasis is transmitted by female *Anopheles*.
- II) Malaria is transmitted by female *Culex*.
- III) Oriental sore is caused by *Leishmania tropica*.
- IV) African sleeping sickness is caused by *Trypanosoma gambiense*.

Options :

I, II, III, IV

1. ✘

I, II, IV only

2. ✘

I, II, III only

3. ✘

III, IV only

4. ✔

Question Number : 55 Question Id : 1056151495 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Assertion (A) : *Entamoeba histolytica* is an obligate anaerobe.

Reason (R) : Mitochondria are absent in it.

The correct option among the following is

Options :

(A) is true, (R) is true and (R) is the correct explanation for (A)

1. ✓

(A) is true, (R) is true but (R) is not the correct explanation for (A)

2. ✘

(A) is true but (R) is false

3. ✘

(A) is false but (R) is true

4. ✘

Question Number : 56 Question Id : 1056151496 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Pick up the mismatched pair(s).

- I) Lymphangitis – Inflammation in lymph glands
- II) Lymphadenitis – Inflammation in lymph vessels
- III) Lymphoedema – Swelling of limbs etc
- IV) Exflagellation – Microgametes of *Plasmodium*

Options :

I, II only

1. ✓

II, III only

2. ✘

III, IV only

3. ✘

IV only

4. ✘

Question Number : 57 Question Id : 1056151497 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In man, *Epidermophyton* causes

Options :

Typhoid

1. ✘

Cholera

2. ✘

Ring worm

3. ✔

Common cold

4. ✘

Question Number : 58 Question Id : 1056151498 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

Match the following :

- | List-I | List-II |
|-----------------|--------------------------|
| A) Cocaine | I) Euphoria |
| B) Nicotine | II) Sleeplessness |
| C) Amphetamines | III) Sedative |
| D) Morphine | IV) Increases heart rate |
| | V) Decrease heart rate |

The correct match is

Options :

1. ✓
A B C D
I IV II III

2. ✗
A B C D
I II IV III

3. ✗
A B C D
IV V III I

4. ✗
A B C D
V II III IV

Question Number : 59 Question Id : 1056151499 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Match the following :

| List-I | | List-II | |
|--------|--------------|---------|-----------------------------------|
| A) | Eurythermal | I) | Tolerate wide range of salinity |
| B) | Euryhaline | II) | Tolerate narrow range of salinity |
| C) | Stenothermal | III) | Corals |
| D) | Stenohaline | IV) | Homeotherms |

The correct match is

Options :

| | | | |
|-----|---|----|----|
| A | B | C | D |
| III | I | IV | II |

1. ✘

| | | | |
|-----|----|----|---|
| A | B | C | D |
| III | II | IV | I |

2. ✘

| | | | |
|---|----|-----|----|
| A | B | C | D |
| I | IV | III | II |

3. ✘

| | | | |
|----|---|-----|----|
| A | B | C | D |
| IV | I | III | II |

4. ✓

Question Number : 60 Question Id : 1056151500 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In a pond, there were 20 frogs last year and through reproduction 8 new frogs were added, taking current population to 28. The birth rate is (offspring per frog per year)

Options :

0.1

1. ✘

0.4

2. ✓

2.5

3. ✘

10

4. ✘

Question Number : 61 Question Id : 1056151501 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

Assertion (A) : Expiration is a passive process.

Reason (R) : In this process, muscles of diaphragm and external intercostal muscles relax.

The correct option among the following is

Options :

(A) is true, (R) is true and (R) is the correct explanation for (A)

1. ✓

(A) is true, (R) is true but (R) is not the correct explanation for (A)

2. ✗

(A) is true but (R) is false

3. ✗

(A) is false but (R) is true

4. ✗

**Question Number : 62 Question Id : 1056151502 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Match the following :

| List-I | | List-II | |
|--------|-----------|---------|------------------------------------|
| A) | Asthma | I) | Iron particles |
| B) | Emphysema | II) | Alveoli filled with fluid |
| C) | Pneumonia | III) | Spasm of smooth muscles of bronchi |
| D) | Siderosis | IV) | Quarry dust |
| | | V) | Coalesce of alveolar walls |

The correct match is

Options :

1. ✘
A B C D
I II V III

2. ✘
A B C D
III V II IV

3. ✘
A B C D
II V III I

4. ✔
A B C D
III V II I

Question Number : 63 Question Id : 1056151503 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

One of the following is not the function of lymphatic system.

Options :

Supply of oxygen to different tissues

1. ✓

Destroys the invading harmful microbes

2. ✗

Transports digested fats into the blood

3. ✗

Transports wastes collected from ECF to blood

4. ✗

**Question Number : 64 Question Id : 1056151504 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0**

Correct Marks : 1 Wrong Marks : 0

Match the following :

| List-I | | List-II | |
|--------|-----------------|---------|-----------------------------------------|
| A) | Angina pectoris | I) | Insufficient pumping of blood |
| B) | Heart failure | II) | Accumulation of calcium and cholesterol |
| C) | Heart attack | III) | Chest pain |
| D) | CAD | IV) | Localised death of heart tissue |
| | | V) | Elevated blood pressure |

The correct match is

Options :

1. ✘
A B C D
IV III I II

2. ✘
A B C D
III IV I II

3. ✘
A B C D
III II I IV

4. ✔
A B C D
III I IV II

Question Number : 65 Question Id : 1056151505 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

Match the following :

| Excretory organs | | Examples | |
|-----------------------|------|------------------------|--|
| A) Protonephridium | I) | Terrestrial arthropods | |
| B) Malpighian tubules | II) | Crustaceans | |
| C) Pericardial glands | III) | Amphibians | |
| D) Antennary glands | IV) | Rotifers | |
| | V) | Adult molluscs | |

The correct match is

Options :

1. ✘
A B C D
IV I V III

2. ✔
A B C D
IV I V II

3. ✘
A B C D
III I IV V

4. ✘
A B C D
II V I IV

Question Number : 66 Question Id : 1056151506 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Assertion (A) : Renal calculi are hard crystalline structures formed in urinary tract.

Reason (R) : They are formed when the concentration of oxalates is high in urine.

The correct option among the following is

Options :

(A) is true, (R) is true and (R) is the correct explanation for (A)

1. ✓

(A) is true, (R) is true but (R) is not the correct explanation for (A)

2. ✘

(A) is true but (R) is false

3. ✘

(A) is false but (R) is true

4. ✘

Question Number : 67 Question Id : 1056151507 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Fibrous membrane that held the thick filaments of A – band of a myofibril is

Options :

Z – line

1. ✘

M – line

2. ✔

H – disc

3. ✘

I – band

4. ✘

Question Number : 68 Question Id : 1056151508 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Gyroscope of the body is

Options :

Cerebrum

1. ✘

Medulla oblongata

2. ✘

Cerebellum

3. ✓

Thalamus

4. ✘

Question Number : 69 Question Id : 1056151509 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

When an axon is repolarised then it develops _____ (I) _____ charge in the outside and _____ (II) _____ charge in the inside

Options :

| | |
|--------------|--------------|
| I | II |
| Positive (+) | Positive (+) |

1. ✘

| | |
|--------------|--------------|
| I | II |
| Negative (-) | Negative (-) |

2. ✘

| | |
|--------------|--------------|
| I | II |
| Positive (+) | Negative (-) |

3. ✓

4. ✘

I

II

Negative (-)

Positive (+)

Question Number : 70 Question Id : 1056151510 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Match the following :

| Gland | Hormone |
|----------------------|-----------------|
| A) Thyroid gland | I) Prolactin |
| B) Hypothalamus | II) Melatonin |
| C) Pituitary gland | III) Calcitonin |
| D) Epiphysis cerebri | IV) Thymosin |
| | V) Somatocrinin |

The correct match is

Options :

| | | | |
|----|---|---|----|
| A | B | C | D |
| IV | V | I | II |

1. ✘

| | | | |
|-----|---|----|---|
| A | B | C | D |
| III | V | II | I |

2. ✘

3. ✘

| | | | |
|----|---|---|----|
| A | B | C | D |
| II | I | V | IV |

| | | | |
|-----|---|---|----|
| A | B | C | D |
| III | V | I | II |

4. ✓

Question Number : 71 Question Id : 1056151511 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Breakdown of muscle proteins, redistribution of body fat, round face, buffalo hump on the back are the symptoms of

Options :

Cushing's disease

1. ✓

Addison's disease

2. ✘

Myxedema

3. ✘

Goiter

4. ✘

Question Number : 72 Question Id : 1056151512 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Which of the following contains the enzyme lysozyme?

Options :

Gastric juice

1. ✘

Bile juice

2. ✘

Saliva

3. ✔

Pancreatic juice

4. ✘

Question Number : 73 Question Id : 1056151513 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Study the following statements regarding immune system and choose correct statements.

- I) MHC class – I molecules present on all nucleated cells.
- II) MHC class – II molecules found on the surface of pathogens.
- III) B – Cells are involved in cell mediated immunity.
- IV) Cytotoxic T- Lymphocytes release enzymes called perforins.

Options :

I, II only

1. ✘

II, III only

2. ✘

II, IV only

3. ✘

I, IV only

4. ✔

Question Number : 74 Question Id : 1056151514 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Arrange the following in a sequence with regard to flow of milk to the outside.

- A) Mammary tubule
- B) Lactiferous duct
- C) Mammary duct
- D) Alveoli
- E) Mammary ampulla

Options :

D → E → A → C → B

1. ✘

D → A → C → E → B

2. ✔

D → C → E → A → B

3. ✘

D → A → E → C → B

4. ✘

Question Number : 75 Question Id : 1056151515 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Match the following :

| Pathogen | STD |
|----------------------------------|---------------------|
| A) Human papilloma virus | I) Gonorrhoea |
| B) <i>Treponema</i> | II) Cervical cancer |
| C) <i>Neisseria</i> | III) AIDS |
| D) Human immune deficiency virus | IV) Syphilis |
| | V) Genital herpes |

The correct match is

Options :

1. ✘
A B C D
II I V III

2. ✔
A B C D
II IV I III

3. ✘
A B C D
III IV I II

4. ✘
A B C D
I II IV III

Question Number : 76 Question Id : 1056151516 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If one parent is with A blood group (homozygous) and the other parent is with B blood group (heterozygous), then which of the following blood groups are not expected in their children?

Options :

1. ✘
A, AB

2. ✔

B, O

B, AB

3. ✘

AB, O

4. ✘

Question Number : 77 Question Id : 1056151517 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Assertion (A) : In honey bees, males have no father and they cannot have sons, but they do have grand fathers and grand sons.

Reason (R) : They develop directly by parthenogenesis from unfertilised ova.

The correct option among the following is

Options :

(A) is true, (R) is true and (R) is the correct explanation for (A)

1. ✔

(A) is true, (R) is true but (R) is not the correct explanation for (A)

2. ✘

(A) is true but (R) is false

3. ✘

(A) is false but (R) is true

4. ✘

**Question Number : 78 Question Id : 1056151518 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0**

In DNA finger printing technology, the DNA is fragmented by the enzyme

Options :

Restriction endonuclease

1. ✔

Reverse transcriptase

2. ✘

DNase

3. ✘

RNase

4. ✘

Question Number : 79 Question Id : 1056151519 Question Type : MCQ Option Shuffling : Yes

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

Correct Marks : 1 Wrong Marks : 0

At which celled stage, the embryos are recovered non-surgically and transferred to surrogate mother in MOET?

Options :

6 – 8

1. ✘

8 – 32

2. ✔

32 – 64

3. ✘

64 – 128

4. ✘

Question Number : 80 Question Id : 1056151520 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The first clinical gene therapy was administered to cure the deficiency of

Options :

1. ✘

Sickle cell anaemia

Diabetes mellitus

2. ✘

Severe Combined Immuno Deficiency

3. ✔

Diabetes insipidus

4. ✘

Physics

| | |
|---------------------------------------------------------------------|-----------|
| Section Id : | 10561530 |
| Section Number : | 3 |
| Section type : | Online |
| Mandatory or Optional : | Mandatory |
| Number of Questions : | 40 |
| Number of Questions to be attempted : | 40 |
| Section Marks : | 40 |
| Enable Mark as Answered Mark for Review and Clear Response : | Yes |
| Maximum Instruction Time : | 0 |
| Sub-Section Number : | 1 |
| Sub-Section Id : | 10561530 |
| Question Shuffling Allowed : | Yes |

Question Number : 81 Question Id : 1056151521 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Which of the following forces has the highest strength?

Options :

Gravitational force

1. ✘

Electromagnetic force

2. ✘

Strong nuclear force

3. ✔

Frictional force

4. ✘

Question Number : 82 Question Id : 1056151522 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

A physical quantity is given as $y = A^{1/2} B^{1/3}$. While measuring above quantity, the percentage of errors given for A and B are 2% and 3% respectively. The maximum percentage error while measuring y is

Options :

6

1. ✘

4

2. ✘

5

3. ✘

2

4. ✔

Question Number : 83 Question Id : 1056151523 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A car travelled half the distance with a velocity 'V' and it covered the remaining half distance with a velocity ' $\left(\frac{V}{2}\right)$ ' in the first half time and with velocity '2V' in the second half time. The average velocity of the car for the whole journey is

Options :

$\frac{10V}{14}$

1. ✘

2. ✔

$$\frac{10V}{9}$$

3. ✘

$$\frac{7V}{4}$$

$$\frac{10V}{7}$$

4. ✘

Question Number : 84 Question Id : 1056151524 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

An aeroplane travels at the speed of 400 km/h. It ejects its products of combustion at the speed of 1200 km/h with respect to an observer on the ground. The speed of ejected product of combustion relative to the aeroplane is

Options :

800 km/h

1. ✘

1600 km/h

2. ✔

1200 km/h

3. ✘

0

4. ✘

Question Number : 85 Question Id : 1056151525 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A vector is given as $\vec{A} = 4\hat{i} + 7\hat{j}$. What would be the angle, the vector \vec{A} makes with
y - axis

Options :

$$\theta = \text{Cos}^{-1}\left(\frac{7}{\sqrt{11}}\right)$$

1. ✘

$$\theta = \text{Cos}^{-1}\left(\frac{4}{\sqrt{11}}\right)$$

2. ✘

$$\theta = \text{Cos}^{-1}\left(\frac{7}{\sqrt{65}}\right)$$

3. ✔

$$\theta = \text{Cos}^{-1}\left(\frac{4}{\sqrt{65}}\right)$$

4. ✘

Question Number : 86 Question Id : 1056151526 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

A ball initially at rest is thrown vertically up with some speed and reaches height H . The ball is thrown with the same speed at an angle 45° with horizontal. The horizontal distance covered by the ball is

Options :

H

1. ✘

2 H

2. ✔

3 H

3. ✘

4 H

4. ✘

Question Number : 87 Question Id : 1056151527 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

The motion of a rocket is based on the principle of conservation of

Options :

mass

1. ✘

kinetic energy

2. ✘

linear momentum

3. ✔

angular momentum

4. ✘

Question Number : 88 Question Id : 1056151528 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If the momentum of a body is doubled, the kinetic energy becomes

Options :

doubled

1. ✘

2. ✘

halved

four times

3. ✓

three times

4. ✗

Question Number : 89 Question Id : 1056151529 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Two objects I and II of mass 0.8 kg and 0.6 kg collide elastically. If before collision, the object II was at rest and object I was moving. Find the ratio of the final velocity of object I and object II.

Options :

6 : 7

1. ✗

4 : 3

2. ✗

1 : 8

3. ✓

4. ✗

1: 16

Question Number : 90 Question Id : 1056151530 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
 Correct Marks : 1 Wrong Marks : 0

The mass of two objects A and B are 100 g and 300 g respectively. Their velocities are $\vec{v}_A = (i + 7j) \text{ m/s}$ and $\vec{v}_B = (j - 6i) \text{ m/s}$. What will be the velocity of centre of mass in m/s?

Options :

$$-\frac{4}{17}i + \frac{5}{2}j$$

1. ✘

$$-\frac{17}{4}i + \frac{5}{2}j$$

2. ✔

$$-\frac{17}{4}i + \frac{2}{5}j$$

3. ✘

$$-\frac{4}{17}i + \frac{2}{5}j$$

4. ✘

Question Number : 91 Question Id : 1056151531 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

A body is executing simple harmonic motion. At time t , the position and acceleration of the body are $x(t) = x_0$ m and $a(t) = a_0$ m/s², respectively. If $x_0 = a_0$, then the angular velocity (in rad/s)

Options :

1. ✓ 1

2. ✗ 0.5

3. ✗ 1.5

4. ✗ 2.5

Question Number : 92 Question Id : 1056151532 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Which one of the following statement about gravitational constant (G) and acceleration due to gravity (g) is “TRUE”?

Options :

The values of ‘G’ and ‘g’ depend on location

1. ✘

The values of ‘G’ and ‘g’ does not depend on location

2. ✘

The value of ‘G’ is the same everywhere in the universe, but the value of ‘g’ is not

3. ✔

The value of ‘g’ is the same everywhere in the universe, but the value of ‘G’ is not

4. ✘

Question Number : 93 Question Id : 1056151533 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A copper wire (Young’s modulus : $110 \times 10^9 \text{ N/m}^2$) having the length of 2 m and the cross sectional area of 0.5 cm^2 is stretched to increase its length by 0.1 %. The required force is

Options :

1. ✘

2750 N

2. ✘
27500 N

3. ✘
55000 N

4. ✔
5500 N

Question Number : 94 Question Id : 1056151534 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

480 m³ of air is being removed from a room in 20 mins via duct. If air is moving outside with speed of 2.5 m/s. The shape and dimension of the duct should be

- A) a square with each side length 0.4 m
- B) a rectangle with dimensions 25 cm × 64 cm
- C) a square with each side length 1.26 m
- D) a rectangle with dimensions 90 cm × 177 cm

Options :

(A) only is correct

1. ✘

(C) only is correct

2. ✘

(A) and (B) only are correct

3. ✔

(C) and (D) only are correct

4. ✘

Question Number : 95 Question Id : 1056151535 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

The radius of a soap bubble is increased from 1 cm to 4 cm. If the surface tension of the soap solution is 0.021 Nm^{-1} , then the work done to increase the radius is

Options :

$4.68 \times 10^{-4} \text{ J}$

1. ✘

$7.92 \times 10^{-4} \text{ J}$

2. ✔

$8.34 \times 10^{-4} \text{ J}$

3. ✘

$$5.88 \times 10^{-4} \text{ J}$$

4. ✘

Question Number : 96 Question Id : 1056151536 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

How much heat is required to convert 10 g of ice at -5°C to water at 10°C ?
(Given specific heat of ice = $0.5 \text{ cal / g}^\circ\text{C}$, specific heat of water = $1.0 \text{ cal / g}^\circ\text{C}$,
Latent heat of fusion = 80 cal / g)

Options :

1000 cal

1. ✘

925 cal

2. ✔

900 cal

3. ✘

950 cal

4. ✘

Question Number : 97 Question Id : 1056151537 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

A sphere, a cube and a thin circular plate, all made of the same material and having the same mass are initially heated to a temperature of $900\text{ }^{\circ}\text{C}$. Which one of the following will cool first ?

Options :

Plate only

1. ✓

Sphere only

2. ✗

Cube only

3. ✗

All the three (Plate, Sphere and Cube)

4. ✗

Question Number : 98 Question Id : 1056151538 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

During adiabatic expansion, the increase in the volume is associated with

Options :

1. ✗

increase in pressure and decrease in T

decrease in pressure and increase in T

2. ✘

increase in pressure and T

3. ✘

decrease in pressure and T

4. ✔

Question Number : 99 Question Id : 1056151539 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Two moles of a monoatomic gas undergoes an isobaric process. If the gas temperature is increased by $20\text{ }^{\circ}\text{C}$ then the heat absorbed by the gas is (Take $R = 8.3\text{ J/K.mol}$)

Options :

630 J

1. ✘

430 J

2. ✘

3. ✔

830 J

960 J

4. ✘

Question Number : 100 Question Id : 1056151540 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Consider an ideal gas in which each molecule has mass 'm' and rms speed v . If the mass of each molecule is doubled to $2m$ and the rms speed is reduced to $v/3$, then the ratio of initial pressure to final pressure of the gas is

Options :

1. ✘ $\frac{4}{9}$

2. ✔ $\frac{9}{2}$

3. ✘ $\frac{3}{4}$

4. ✘ $\frac{3}{2}$

Question Number : 101 Question Id : 1056151541 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Two waves with displacement y_1 and y_2 travel in the same medium. y_1 and y_2 are given as

$$y_1 = [4 \sin(20\pi t - 4\pi x)] \text{ cm}$$

$$y_2 = [3 \sin(20\pi t - 4\pi x)] \text{ cm}$$

Their intensities are I_1 and I_2 , respectively, then ratio $\frac{I_1}{I_2}$ is

Options :

1. ✓ $\frac{16}{9}$

2. ✗ $\frac{9}{16}$

3. ✗ $\frac{3}{4}$

4. ✗ $\frac{4}{3}$

Question Number : 102 Question Id : 1056151542 Question Type : MCQ Option Shuffling : Yes

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

Critical angle of light passing from glass to air is minimum for light with wavelength

Options :

670 nm

1. ✘

550 nm

2. ✘

590 nm

3. ✘

460 nm

4. ✔

Question Number : 103 Question Id : 1056151543 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

A yellow light source forms the interference pattern on the screen in the Young's double slit experiment. If it is replaced with green light source, then the fringe pattern

Options :

1. ✘

expands

contracts

2. ✓

disappears

3. ✗

remains the same

4. ✗

Question Number : 104 Question Id : 1056151544 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The electric field in a region is given by $\vec{E} = (4\hat{i} + 5\hat{j} + 3\hat{k})$ V/m. Let θ_1 and θ_2 be the net flux passing through a square area of side 2 cm parallel to y-z plane and x-z plane respectively. The ratio θ_1/θ_2 is

Options :

0.80

1. ✓

1.25

2. ✗

1.33

3. ✘

0.60

4. ✘

Question Number : 105 Question Id : 1056151545 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A parallel plate capacitor of capacitance $8 \mu\text{F}$ is connected to a 20 V battery and is allowed to charge completely. The battery is then disconnected and a dielectric material of dielectric constant 8 is introduced between the plates of the capacitor. The energy dissipated in this process is

Options :

1600 μJ

1. ✘

1400 μJ

2. ✔

1500 μJ

3. ✘

1200 μJ

4. ✘

Question Number : 106 Question Id : 1056151546 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Resistance of wire at $20\text{ }^\circ\text{C}$ is $10\ \Omega$. At what temperature, resistance becomes $30\ \Omega$
(The temperature coefficient of resistance $\alpha = 0.0125 / ^\circ\text{C}$)

Options :

220 $^\circ\text{C}$

1. ✘

100 $^\circ\text{C}$

2. ✘

180 $^\circ\text{C}$

3. ✔

300 $^\circ\text{C}$

4. ✘

Question Number : 107 Question Id : 1056151547 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

A current of 2 A flows through a $2\ \Omega$ resistor when connected across a battery. The same battery supplied a current of $0.5\ \text{A}$ when connected across a $9\ \Omega$ resistor. The internal resistance of the battery is

Options :

0.5 Ω

1. ✘

$\frac{1}{4} \Omega$

2. ✘

$\frac{1}{3} \Omega$

3. ✔

1 Ω

4. ✘

Question Number : 108 Question Id : 1056151548 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A wire carrying the current of 5A and length of 20 cm is bent to form a semi-circle.

The magnetic induction (in tesla) at centre of semi-circle is

[use $\pi = \sqrt{10}$]

Options :

$\frac{150 \mu_0}{4 \pi}$

1. ✘

$\frac{250 \mu_0}{4 \pi}$

2. ✔

$$\frac{350 \mu_0}{4 \pi}$$

3. ✘

$$\frac{450 \mu_0}{4 \pi}$$

4. ✘

Question Number : 109 Question Id : 1056151549 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A current of 30 mA is required in a galvanometer for full scale deflection. The galvanometer has the coil of resistance 30Ω . If a maximum current of 3A is to be passed through the galvanometer then the resistance that should be added as shunt is

Options :

0.2 Ω

1. ✘

0.3 Ω

2. ✔

0.8 Ω

3. ✘

4. ✘

1.2 Ω

Question Number : 110 Question Id : 1056151550 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

A short bar magnet of magnetic moment 0.05 J/T is placed with its axis perpendicular to the earth's field direction. The resultant field is inclined at 45° with earth's field on its axis at a distance of 5.0 cm from the center of the magnet. The magnitude of earth's field at this point is

(Take $\frac{\mu_0}{4\pi} = 10^{-7}$ SI unit)

Options :

0.5G

1. ✘

0.8G

2. ✔

0.3G

3. ✘

0.6G

4. ✘

Question Number : 111 Question Id : 1056151551 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

A circular loop of radius 1.0 cm is placed in a magnetic field, that varies as function of time as $B(t) = (0.007 t)$ T. The direction of field is perpendicular to the plane of loop. The magnitude of induced emf at time $t = 4$ s is

Options :

$2.0 \times 10^{-5} \text{ V}$

1. ✘

$6.5 \times 10^{-6} \text{ V}$

2. ✘

$2.2 \times 10^{-6} \text{ V}$

3. ✔

$2\pi \times 10^{-5} \text{ V}$

4. ✘

Question Number : 112 Question Id : 1056151552 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

A bulb and capacitor are connected in series to a source of alternating current. If frequency is increased, while keeping the voltage of the source constant, then

Options :

Bulb will give more intense light

1. ✓

Bulb will give less intense light

2. ✗

Bulb will give light of same intensity as before

3. ✗

Bulb light will fluctuate

4. ✗

Question Number : 113 Question Id : 1056151553 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

If the frequency of the electromagnetic wave is 3×10^{17} Hz, then it corresponds to which part of electromagnetic spectrum

Options :

Visible

1. ✗

X-ray

2. ✓

Microwave

3. ✖

Gamma ray

4. ✖

Question Number : 114 Question Id : 1056151554 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

In a photoelectric effect, the maximum energy of the photoelectron is attained with exposure of 2000 \AA light. If the maximum kinetic energy of the photoelectron is 3 eV , the threshold wavelength will be
(use $hc=1240 \text{ eV.nm}$)

Options :

387.5 nm

1. ✔

402.5 nm

2. ✖

339.5 nm

3. ✖

445.5 nm

4. ✖

Question Number : 115 Question Id : 1056151555 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

A particle of mass 4×10^{-27} kg is moving with velocity 3×10^5 m/s. The de Broglie wavelength associated with the particle is
(Use $h = 6.6 \times 10^{-34}$ Js)

Options :

1. ✓ 5.5×10^{-3} Å

2. ✗ 4.0×10^{-2} Å

3. ✗ 4.5×10^{-3} Å

4. ✗ 6.0×10^{-2} Å

Question Number : 116 Question Id : 1056151556 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

What is the radius of electron orbit in hydrogen atom when electron is in first excited state?

Options :

4.06 Å

1. ✘

2.12 Å

2. ✔

1.06 Å

3. ✘

3.06 Å

4. ✘

Question Number : 117 Question Id : 1056151557 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The nuclear radius of a nucleus with nucleon number 16, is 3×10^{-15} m. Then the nuclear radius of a nucleus with nucleon number 128 is

Options :

3×10^{-15} m

1. ✘

1.5×10^{-15} m

2. ✘

$$4.5 \times 10^{-15} \text{ m}$$

3. ✘

$$6 \times 10^{-15} \text{ m}$$

4. ✔

Question Number : 118 Question Id : 1056151558 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

An ac voltage of peak value 20 V is connected in series with a silicon diode ($V_b=0.7 \text{ V}$) and a load resistor (380Ω). If the forward junction resistance of the diode is 6Ω , then, peak diode current and peak load voltage are

Options :

$$25 \text{ mA}; 10 \text{ V}$$

1. ✘

$$50 \text{ mA}; 19 \text{ V}$$

2. ✔

$$52 \text{ mA}; 19 \text{ V}$$

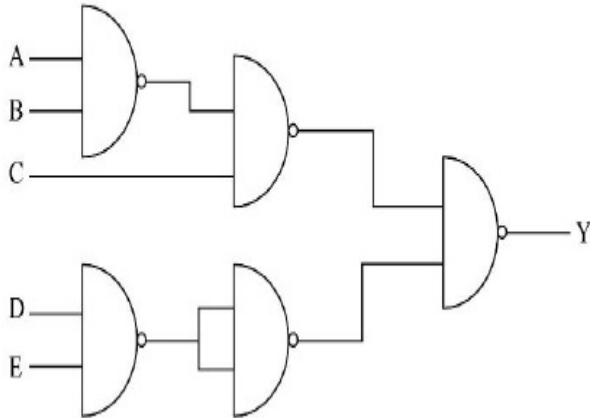
3. ✘

$$116 \text{ mA}; 44 \text{ V}$$

4. ✘

Question Number : 119 Question Id : 1056151559 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

In the following logic circuit, $C = D = E = 0$; for what values of A and B the output $Y = 1$



Options :

only for $A = 0, B = 0$

1. ✘

only for $A = 0, B = 1$

2. ✘

only for $B = 1, A = 0$

3. ✘

for any values of A and B

4. ✔

Question Number : 120 Question Id : 1056151560 Question Type : MCQ Option Shuffling : Yes

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

Correct Marks : 1 Wrong Marks : 0

A transmitting antenna at the top of a hill has a height 72 m and the height of the receiving antenna is 128 m. The maximum distance between them for satisfactory communication in LOS mode is
(Use Radius of earth = 6.4×10^6 m)

Options :

20.8 $\sqrt{10}$ km

1. ✘

22.4 $\sqrt{10}$ km

2. ✔

25.2 $\sqrt{10}$ km

3. ✘

24.8 $\sqrt{10}$ km

4. ✘

Chemistry

| | |
|--------------------------------|-----------|
| Section Id : | 10561531 |
| Section Number : | 4 |
| Section type : | Online |
| Mandatory or Optional : | Mandatory |
| Number of Questions : | 40 |

| | |
|---------------------------------------------------------------------|----------|
| Number of Questions to be attempted : | 40 |
| Section Marks : | 40 |
| Enable Mark as Answered Mark for Review and Clear Response : | Yes |
| Maximum Instruction Time : | 0 |
| Sub-Section Number : | 1 |
| Sub-Section Id : | 10561531 |
| Question Shuffling Allowed : | Yes |

Question Number : 121 Question Id : 1056151561 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

In hydrogen atom, the degeneracy of the level with energy $-\frac{R_H}{9}$ is

Options :

3

1. ✘

4

2. ✘

9

3. ✔

16

4. ✘

Question Number : 122 Question Id : 1056151562 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

Which of the following sets of quantum numbers is not possible?

Options :

1. ✘ $n = 1, l = 0, m_l = 0, m_s = -1/2$

2. ✘ $n = 2, l = 1, m_l = 0, m_s = -1/2$

3. ✔ $n = 2, l = 2, m_l = 0, m_s = +1/2$

4. ✘ $n = 3, l = 1, m_l = 0, m_s = +1/2$

Question Number : 123 Question Id : 1056151563 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

The set of elements that have only one electron in 5s orbital in the ground state is

Options :

1. ✘ Rb, In

2. ✔

Rb, Mo, Ag

Rb, Pd, Mo

3. ✘

Rb, Pd

4. ✘

Question Number : 124 Question Id : 1056151564 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

What are the oxidation state and covalency of Al in $[\text{AlCl}(\text{H}_2\text{O})_5]^{2+}$ respectively?

Options :

+1, 3

1. ✘

+3, 6

2. ✔

+3, 5

3. ✘

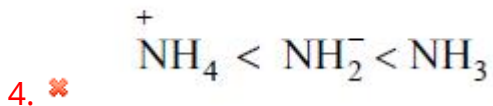
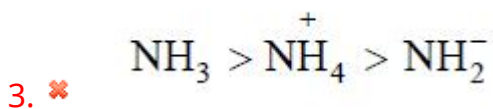
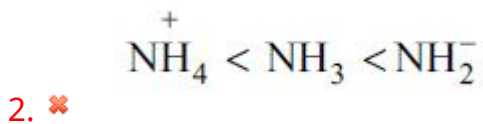
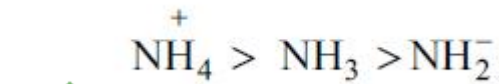
+1, 6

4. ✘

Question Number : 125 Question Id : 1056151565 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

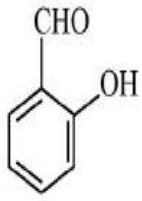
The correct order of the bond angles in NH_3 , NH_4^+ and NH_2^- is

Options :

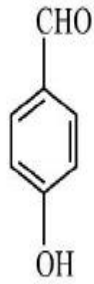


Question Number : 126 Question Id : 1056151566 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

The molecules that can form intramolecular hydrogen bonding are



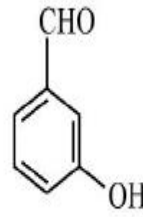
(a)



(b)



(c)



(d)



(e)

Options :

a, d only

1. ✘

a, b, c, d only

2. ✘

a, e only

3. ✘

a only

4. ✔

Question Number : 127 Question Id : 1056151567 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Among the given gases, the gas with the highest van der Waal's force of attraction is

Options :

1. ✘

CO₂

NH₃

2. ✓

CH₄

3. ✗

N₂O

4. ✗

Question Number : 128 Question Id : 1056151568 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Which of the following equations is correct for a real gas at very low pressure?

Options :

$$z = 1 - \frac{bP}{RT}$$

1. ✗

$$z = 1 + \frac{bP}{RT}$$

2. ✗

$$z = 1 - \frac{na}{RTV}$$

3. ✓

$$z = 1 + \frac{n\alpha}{RTV}$$

4. ✘

Question Number : 129 Question Id : 1056151569 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

How many moles of methane are required to produce 22 g of CO₂(g) after combustion?

Options :

1

1. ✘

0.25

2. ✘

0.5

3. ✔

2

4. ✘

Question Number : 130 Question Id : 1056151570 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Oxidation number of the central metal atom in the compound $K[Co(CN)(CO_2)(Cl)]$

is

Options :

3

1. ✘

2

2. ✘

1

3. ✔

0

4. ✘

Question Number : 131 Question Id : 1056151571 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

For the free expansion of an ideal gas under adiabatic conditions, the correct option is

Options :

q ΔT W

$\neq 0$ 0 0

1. ✘

2. ✔

| | | |
|---|------------|---|
| q | ΔT | W |
| 0 | 0 | 0 |

3. ✖

| | | |
|---|------------|----------|
| q | ΔT | W |
| 0 | < 0 | $\neq 0$ |

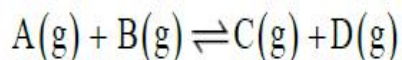
4. ✖

| | | |
|-------|------------|---|
| q | ΔT | W |
| > 0 | > 0 | 0 |

Question Number : 132 Question Id : 1056151572 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The equilibrium constant K_c of the following reaction is 9 at a temperature T.



Assuming that the initial concentration of all the gases is 1 mole, what will be the concentration of A and C, respectively, at equilibrium?

Options :

0.5 ; 1.5

1. ✔

$\left(1 - \frac{3}{\sqrt{10}}\right); \left(1 + \frac{3}{\sqrt{10}}\right)$

2. ✖

3. ✖

0.5; 0.5

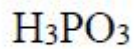
1.5; 1.5

4. ✘

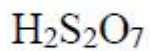
Question Number : 133 Question Id : 1056151573 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

The strongest reducing agent among the given options is

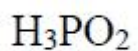
Options :



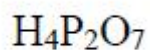
1. ✘



2. ✘



3. ✔



4. ✘

Question Number : 134 Question Id : 1056151574 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

The correct order of the calorific value of the given fuels is

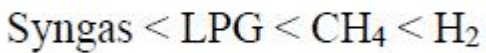
Options :



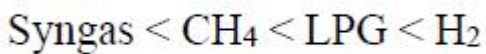
1. ✘



2. ✘



3. ✔



4. ✘

Question Number : 135 Question Id : 1056151575 Question Type : MCQ Option Shuffling : Yes

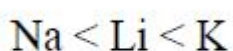
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

The increasing order of $E_{(M^+/M)}^{\circ}$ values of alkali metals is

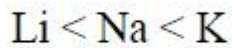
Options :



1. ✘



2. ✘



3. ✘



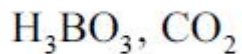
4. ✔

Question Number : 136 Question Id : 1056151576 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

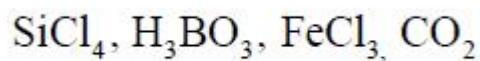
Correct Marks : 1 Wrong Marks : 0

The complete set of Lewis acids among the given compounds is
 $\text{SiCl}_4, \text{H}_3\text{BO}_3, \text{FeCl}_3, \text{H}_2\text{O}, \text{CO}_2, \text{NH}_3$

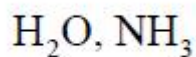
Options :



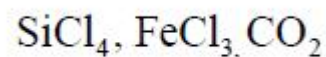
1. ✘



2. ✔



3. ✘



4. ✘

Question Number : 137 Question Id : 1056151577 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time

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

Correct Marks : 1 Wrong Marks : 0

The correct set of option in the following about diamond is

Options :

1. ✘

| Hybridisation | Bond length | Bond nature | Uses |
|---------------|-------------|-------------|-------------|
| sp^3 | 1.22 Å | Covalent | As abrasive |

2. ✘

| Hybridisation | Bond length | Bond nature | Uses |
|---------------|-------------|-------------|----------------------------|
| sp^3 | 1.34 Å | Covalent | To make tungston filaments |

3. ✘

| Hybridisation | Bond length | Bond nature | Uses |
|---------------|-------------|-------------|-------------|
| sp^2 | 1.54 Å | Ionic | As abrasive |

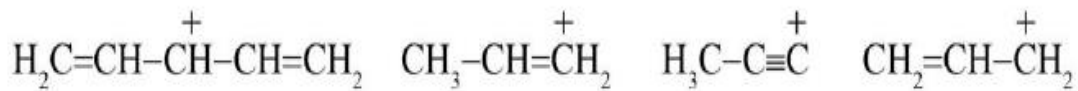
4. ✔

| Hybridisation | Bond length | Bond nature | Uses |
|---------------|-------------|-------------|-------------|
| sp^3 | 1.54 Å | Covalent | As abrasive |

Question Number : 138 Question Id : 1056151578 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The stability order of the following carbocations is



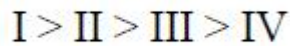
I

II

III

IV

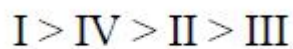
Options :



1. ✘



2. ✘



3. ✔



4. ✘

Question Number : 139 Question Id : 1056151579 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Assertion (A) : Polythene formation is driven by a catalyst at ambient temperature and low pressure.

Reason (R) : Ethylene polymerization follows Le-Chatellier's Principle.

The correct option among the following is

Options :

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

Question Number : 140 Question Id : 1056151580 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The correct statement for the formation of nitronium ion intermediate for an electrophilic aromatic nitration is

Options :

1. ✘ Both H_2SO_4 and HNO_3 serve as acids
2. ✔ H_2SO_4 serves as acid and HNO_3 as base
3. ✘ H_2SO_4 serves as base and HNO_3 as acid
4. ✘

Both H_2SO_4 and HNO_3 serve as bases

Question Number : 141 Question Id : 1056151581 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

The number of Schottky defects present in NaCl per cm^3 at room temperature is

Options :

1. ✘ 10^3

2. ✘ 10^{23}

3. ✘ 10^{16}

4. ✔ 10^6

Question Number : 142 Question Id : 1056151582 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Match the following.

| | Gas | Henry's law constant [K_H /k bar at 298 K] |
|----|-----------------|--------------------------------------------------|
| A) | Ar | I) 140 |
| B) | CO ₂ | II) 70 |
| C) | N ₂ | III) 40 |
| D) | He | IV) 1.67 |

The correct match is

Options :

1. ✘

| | | | |
|----|----|---|-----|
| A | B | C | D |
| II | IV | I | III |

2. ✘

| | | | |
|---|----|-----|----|
| A | B | C | D |
| I | II | III | IV |

3. ✘

| | | | |
|-----|---|----|----|
| A | B | C | D |
| III | I | II | IV |

4. ✔

| | | | |
|-----|----|----|---|
| A | B | C | D |
| III | IV | II | I |

Question Number : 143 Question Id : 1056151583 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
 : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

A substance which loses its water of crystallisation [ex: $\text{CuSO}_4 \cdot 2\text{H}_2\text{O}$] on exposure to the atmosphere is called

Options :

1. ✘ hygroscopic

2. ✘ deliquescent

3. ✔ efflorescent

4. ✘ isomorphous

Question Number : 144 Question Id : 1056151584 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The total charge on one gram ion of N^{3-} is approximately

Options :

1. ✔ $2.9 \times 10^5 \text{ C}$

2. ✘ $2.7 \times 10^4 \text{ C}$

3. ✘

$$1.3 \times 10^4 \text{ C}$$

$$1.9 \times 10^5 \text{ C}$$

4. ✘

Question Number : 145 Question Id : 1056151585 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
 : N.A Think Time : N.A Minimum Instruction Time : 0
 Correct Marks : 1 Wrong Marks : 0

For the reaction $A + B \longrightarrow C + D$
 the following data was collected. The order of the reaction is

| [A] mol/L | [B] mol/L | Initial rate mol L ⁻¹ s ⁻¹ |
|--------------|--------------|-----------------------------------------------------|
| 0.25 | 0.4 | 1.1×10^{-1} |
| 0.25 | 0.2 | 1.1×10^{-1} |
| 0.75 | 0.2 | 10×10^{-1} |

Options :

3

1. ✔

2

2. ✘

1

3. ✘

0

4. ✘

Question Number : 146 Question Id : 1056151586 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
 : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

Identify the suitable conditions when the adsorption equilibrium is attained.

Options :

1. ✘

| | | |
|------------|--------------|----------------------|
| ΔG | ΔH | ΔS |
| 0 | $-T\Delta S$ | $\frac{\Delta H}{T}$ |

2. ✘

| | | |
|------------|-------------|-----------------------|
| ΔG | ΔH | ΔS |
| -ve | $T\Delta S$ | $\frac{-\Delta H}{T}$ |

3. ✘

| | | |
|------------|--------------|-----------------------|
| ΔG | ΔH | ΔS |
| -ve | $-T\Delta S$ | $\frac{+\Delta H}{T}$ |

4. ✔

| | | |
|------------|-------------|----------------------|
| ΔG | ΔH | ΔS |
| 0 | $T\Delta S$ | $\frac{\Delta H}{T}$ |

Question Number : 147 Question Id : 1056151587 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Choose the correct increasing order of electronegativity for the following elements.

N, P, S, Br

Options :

1. ✓ $P < S < Br < N$

2. ✗ $N < S < Br < P$

3. ✗ $P < N < S < Br$

4. ✗ $S < Br < N < P$

Question Number : 148 Question Id : 1056151588 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Match the following.

| Column – I (Compound of S) | Column – II (Hybridization of S) |
|-------------------------------|-------------------------------------|
| A) SF_6 | I) sp^3d |
| B) SO_2 | II) sp^3 |
| C) SCl_4 | III) sp^2 |
| D) H_2SO_4 | IV) sp^3d^2 |

The correct match is

Options :

1. ✓

| | | | |
|----|-----|---|----|
| A | B | C | D |
| IV | III | I | II |

2. ✘

| | | | |
|-----|----|----|---|
| A | B | C | D |
| III | IV | II | I |

3. ✘

| | | | |
|----|---|-----|----|
| A | B | C | D |
| IV | I | III | II |

4. ✘

| | | | |
|----|-----|----|---|
| A | B | C | D |
| IV | III | II | I |

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

Correct Marks : 1 Wrong Marks : 0

Total number of lone pairs of electrons present in HClO_4 is

Options :

1. ✘ 6

2. ✘ 7

3. ✔ 8

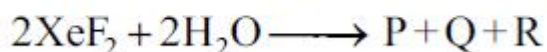
4. ✘ 9

Question Number : 150 Question Id : 1056151590 Question Type : MCQ Option Shuffling : Yes

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

Correct Marks : 1 Wrong Marks : 0

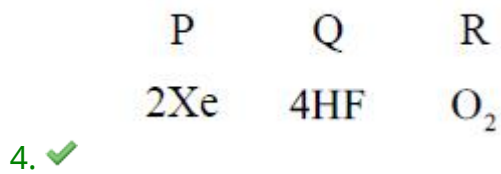
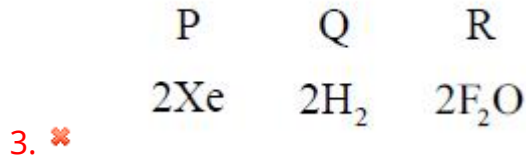
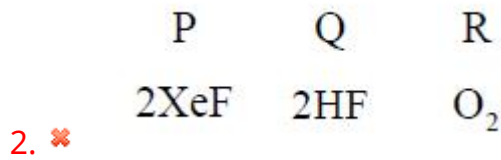
The products P, Q and R of the following reaction are



Options :

1. ✘

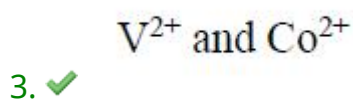
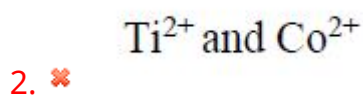
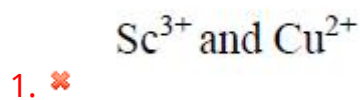
| P | Q | R |
|------|-----------------|-----------------|
| 2XeO | 2H ₂ | 2F ₂ |



Question Number : 151 Question Id : 1056151591 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Correct Marks : 1 Wrong Marks : 0

Which of the following pair of ions in the presence of a weak ligand will have the same spin only magnetic moments?

Options :

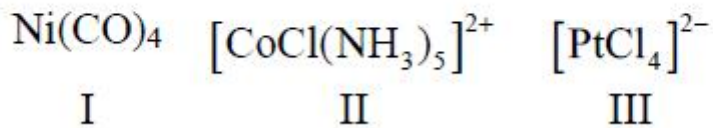


V^{2+} and Ni^{2+}

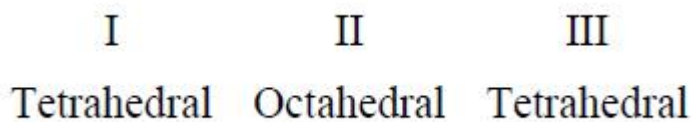
4. ✘

Question Number : 152 Question Id : 1056151592 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
 : N.A Think Time : N.A Minimum Instruction Time : 0
 Correct Marks : 1 Wrong Marks : 0

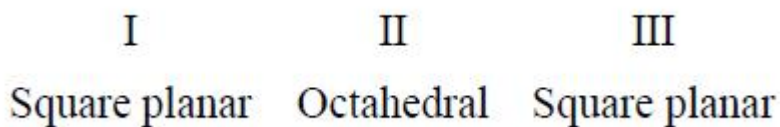
The shapes of the following coordination complexes are



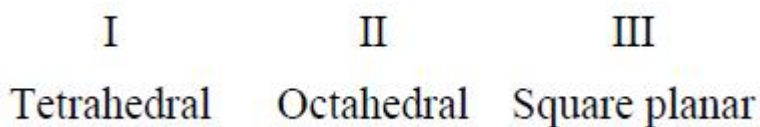
Options :



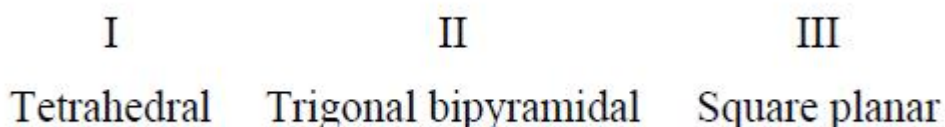
1. ✘



2. ✘



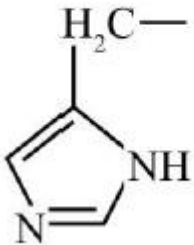
3. ✔



4. ✘

Question Number : 153 Question Id : 1056151593 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

Given sub-structure belongs to which amino acid



Options :

Proline

1. ✘

Arginine

2. ✘

Tyrosine

3. ✘

Histidine

4. ✔

Question Number : 154 Question Id : 1056151594 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

When two halogen atoms are attached to the same carbon atom, then it is called

Options :

Vicinal dihalide

1. ✘

Geminal dihalide

2. ✔

α, γ -Dihalide

3. ✘

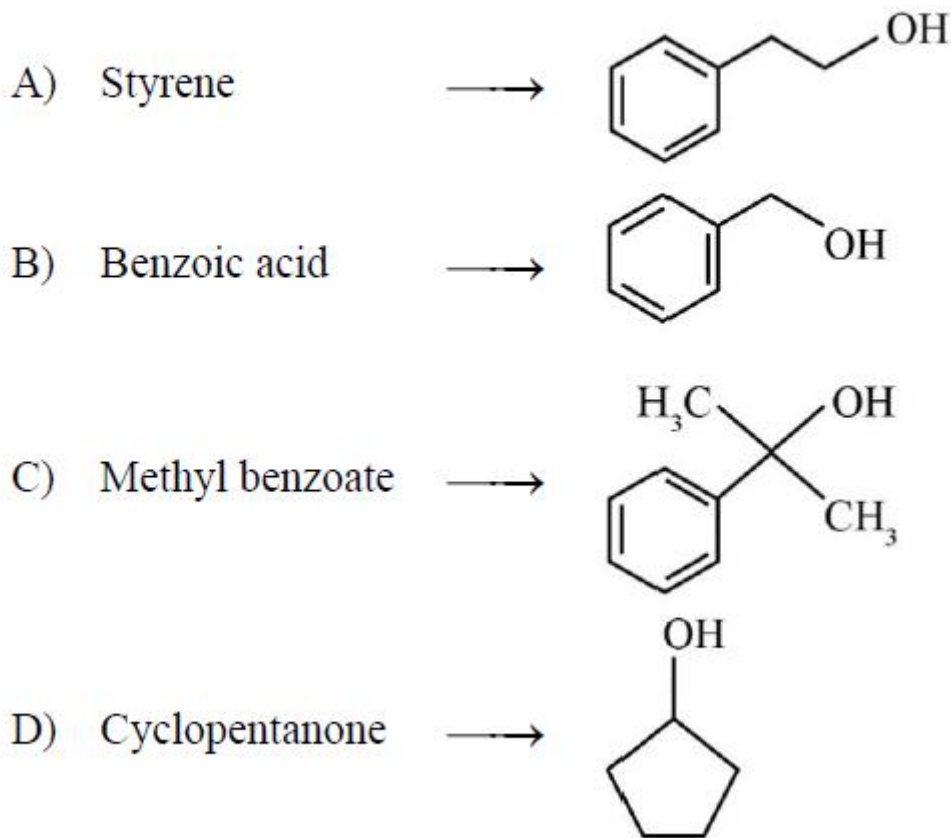
α, β -Dihalide

4. ✘

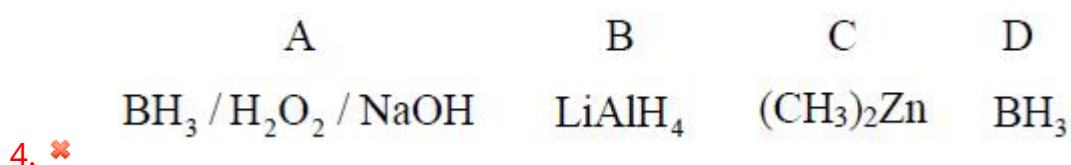
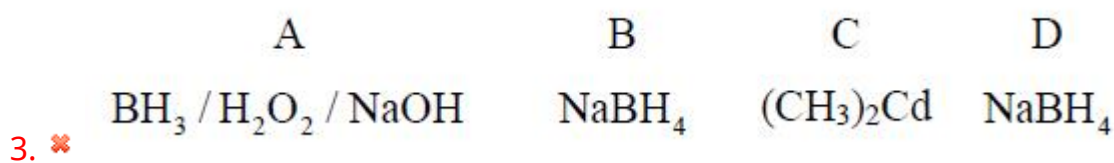
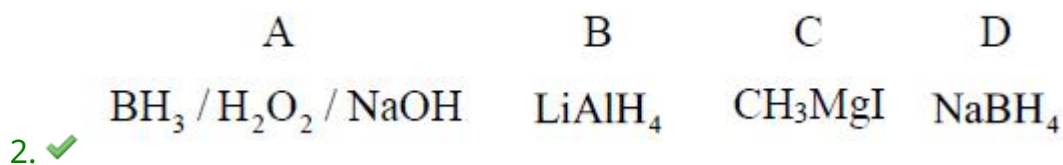
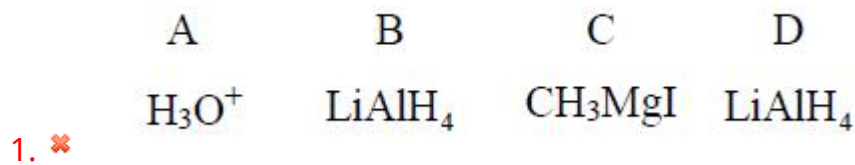
Question Number : 155 Question Id : 1056151595 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

The appropriate reagents in the following reactions are



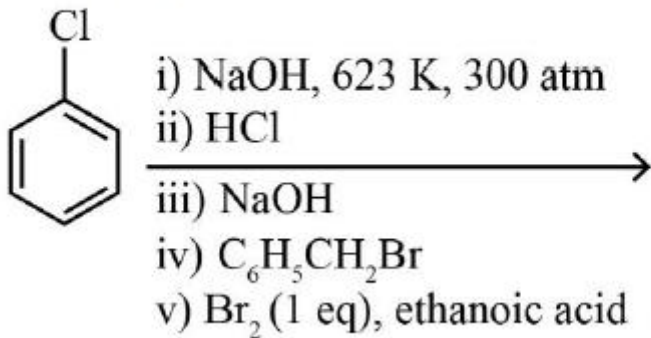
Options :



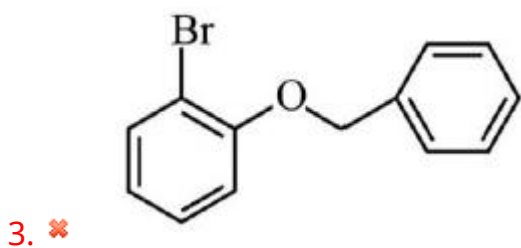
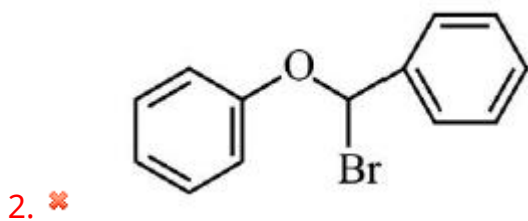
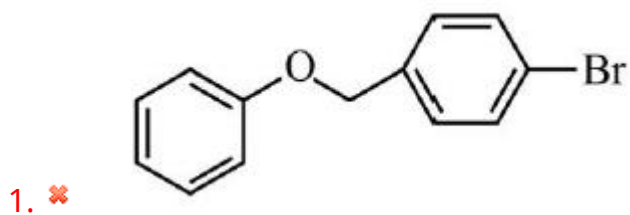
Question Number : 156 Question Id : 1056151596 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

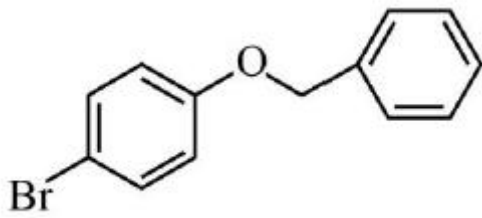
The major product of the following reaction is



Options :



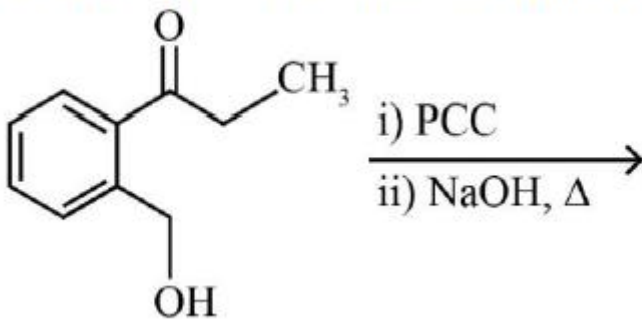
4. ✔



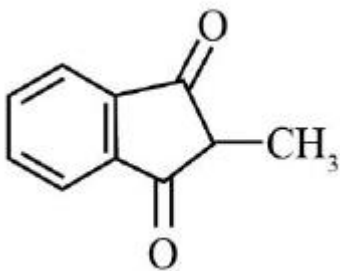
Question Number : 157 Question Id : 1056151597 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

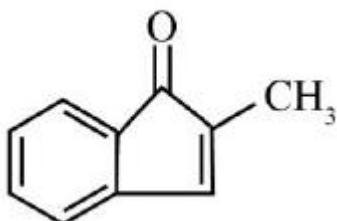
The major product of the following reaction sequence is



Options :

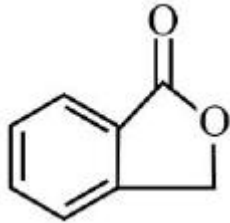
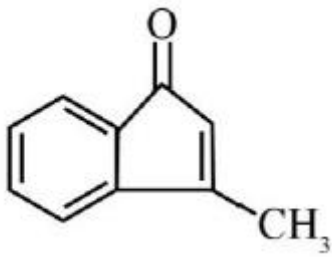


1. ✘



2. ✔

3. ✘

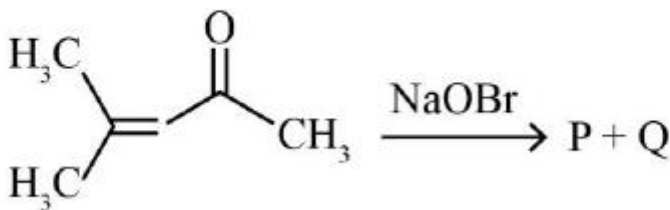


4. ✖

Question Number : 158 Question Id : 1056151598 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

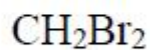
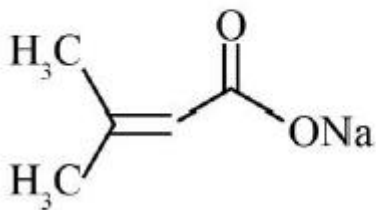
The products P and Q in the following reaction are



Options :

P

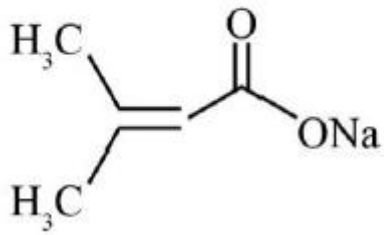
Q



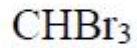
1. ✖

2. ✔

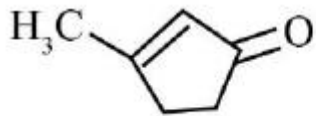
P



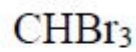
Q



P

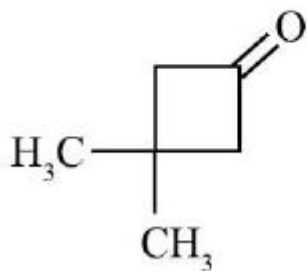


Q

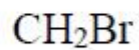


3. ✖

P



Q

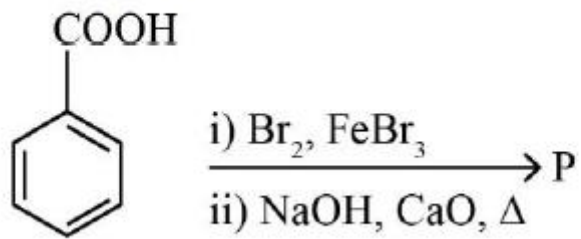


4. ✖

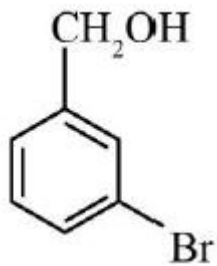
Question Number : 159 Question Id : 1056151599 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1 Wrong Marks : 0

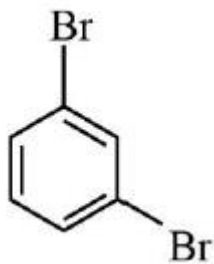
The major product of the following reaction is



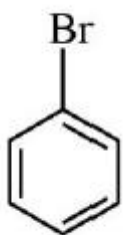
Options :



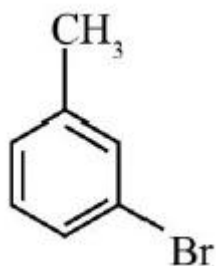
1. ✘



2. ✘



3. ✔



4. ✘

Question Number : 160 Question Id : 1056151600 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes Is Question Mandatory : No Calculator : None Response Time
: N.A Think Time : N.A Minimum Instruction Time : 0
Correct Marks : 1 Wrong Marks : 0

The correct decreasing order of the basic strength is

Options :

1. ✘ $\text{PhNH}_2 > \text{EtNH}_2 > \text{Et}_2\text{NH} > \text{NH}_3$
2. ✔ $\text{Et}_2\text{NH} > \text{EtNH}_2 > \text{NH}_3 > \text{PhNH}_2$
3. ✘ $\text{NH}_3 > \text{EtNH}_2 > \text{Et}_2\text{NH} > \text{PhNH}_2$
4. ✘ $\text{Et}_2\text{NH} > \text{EtNH}_2 > \text{PhNH}_2 > \text{NH}_3$