Sample Paper

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UG ABC (sections: Agriculture, Biology, Chemistry)

Q.No. 1

A mass with certain disease marries a normal woman. They have eight children (5 daughters and 3 sons). All the daughter's suffer from their father disease but none of the son are affected. Which of the following mode of inheritance do you suggest for this disease?

(A)

Autosomal dominant

(B)

Sex-linked recessive

(C)

Sex-limited recessive

(D)

Sex-linked dominant

Q.No. 2

Which of the following is not the feature of catalytic converter?

(A)

They are used in automobiles from reduction of poisonous gases

(B)

Vehicles equipped with catalytic converter should use leaded petrol

(C)

Rhodium is used as one of the catalyst in catalytic converter

(D)

When the exhaust passes through these converters, unburnt hydrocarbons are changed into carbon dioxide and oxygen

Q.No. 3

The molarity of sucrose in the solution prepared by dissolving its 114 gm in water to form 300 ml of solution is:

(A)

$1.11 * 10^{-3}$ $molcm^{-3}$

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(B)

$1.11 * 10^{-2}$ $moldm^{-3}$

(C)

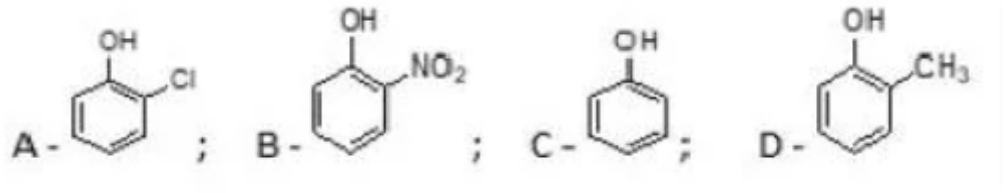
$1.11 * 10^{3}$ $moldm^{-3}$

(D)

$1.11 * 10^{2}$ $molcm^{-3}$

Q.No. 4

Arrange the following compounds in increasing order of acidity:



(A)

D<C<A<B

(B)

C<D<A<B

(C)

D<A<B<C

(D)

A<D<B<C

Q.No. 5

Given below are two statements:

Statement I: Measurement of water deficit in plants is must for scheduling irrigation.

Statement II: Crop water requirement may not vary with soil types, crops and growth stages.

In light of the above statements, choose the most appropriate answer from the options given below:

(A)

Both statement I and statement II is correct

(B)

Both statement I and statement II is incorrect

(C)

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statement I is correct but statement II is incorrect

(D)

statement I is incorrect but statement II is correct

Q.No. 6

Given below are two statements, one is labelled as Assertion and other is labelled as Reason:

Assertion A: Glycoproteins have unusual properties due to polar group.

Reason R: Gonadotropic hormone is the example of glycoprotein.

In light of the above statements, choose the most appropriate answer from the options given below:

(A)

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

(B)

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

(C)

A is correct but R is incorrect

(D)

A is incorrect but R is correct

Q.No. 7

What is the cation exchange capacity of silicate clay?

(A)

3 to 150 Cmol (P^+)/kg

(B)

120 to 180 Cmol (P^+)/kg

(C)

20 to 240 Cmol (P^+)/kg

(D)

150 to 300 Cmol (P^+)/kg

Q.No. 8

Match List I with List II:

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List I	List II
Enzyme	Source
A. Zymase	I. Soyabean
B. Urease	II. Yeast
C. Pepsin	III. Malt
D. Diastase	IV. Stomach

Choose the correct answer from the options given below:

(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 9

Arrange the different steps of plant breeding in correct sequence
A. Parent evaluation and selection
B. Superior recombinants selection
C. Testing, release and commercialization
D. Cross hybridization
E. Collection of variability
Choose the correct answer from the options given below:

(A)

E>A>D>B>C

(B)

A>B>C>D>E

(C)

E>D>B>A>C

(D)

A>D>E>C>B

Q.No. 10

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Which of the following cannot be used as vector for cloning in recombinant DNA technology?
1. Plasmid
2. Plastid
3. Bacteriophage
4. Bacterial artificial chromosome

(A)

1

(B)

2

(C)

3

(D)

4

Q.No. 11

Read the following statements and choose the correct statements:

A: Tubers of Cyperus esculentus affect the growth of maize.

B: Crop rotation is one of the most important practices for controlling all weeds.

C: Seed exudates of wild oat affect wheat germination.

D: Seed bed preparation maximizes the early weed flushes.

E: Smother crops grown as intercrop to suppress the weed flora.

Choose the correct answer from the options given below:

(A)

A, B and C only

(B)

B, C and D only

(C)

C, D and E only

(D)

A, C and E only

Q.No. 12

Graph is mostly propagated by which of the following method?

(A)

Semi-hardwood cutting

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(B)

Soft wood cutting

(C)

Root cutting

(D)

Hard wood cutting

Q.No. 13

Which of the following plastids store proteins?

(A)

Amyloplasts

(B)

Elaioplasts

(C)

Aleuroplasts

(D)

Protoplasts

Q.No. 14

The temperature at which the real gas obeys ideal gas law over an appreciable range of pressure is called

(A)

Absolute temperature

(B)

Boyle temperature

(C)

Critical temperature

(D)

Kelvin temperature

Q.No. 15

Which of the following is NOT an anabolic process?

A. Oxidative deamination of nuerotransmitter by monoamine oxidase
B. Glycerol reacts with fatty acids to make lipids
C. Increase in the muscle mass
D. Hydrogen peroxide decomposes into water and oxygen

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E. Synthesis of glycogen from glucose
Choose the correct answer from the options given below:

(A)

A, B, E only

(B)

B, D only

(C)

A, D only

(D)

B, D, E only

Q.No. 16

Given below are two statements, one is labelled as Assertion and other is labelled as Reason:

Assertion A: Maximum number of plants can be accommodated in quincunx system of planting.

Reason R: Contour system is used in hilly area for planting.

In light of the above statements, choose the most appropriate answer from the options given below:

(A)

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

(B)

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

(C)

A is correct but R is incorrect

(D)

A is incorrect but R is correct

Q.No. 17

Which of the following expressions is correct for the molar conductivity of strong electrolytes?

(A)

$$\Lambda_{\mathrm{m}}^{0}=\Lambda_{\mathrm{m}}-\mathrm{A}(\mathrm{c})^{1/2}$$

(B)

$$\Lambda_{\mathrm{m}}=\Lambda_{\mathrm{m}}^{0}-\mathrm{A}(\mathrm{c})^{1/2}$$

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(C)

$$\Lambda_{\mathrm{m}}=\Lambda_{\mathrm{m}}^{0}-\mathrm{A}(\mathrm{c})^{1/2}$$

(D)

$$\Lambda_{m}^{0}=\Lambda_{m}-A(c)^{1/2}$$

Q.No. 18

Read the following statement and choose the correct statements:

A: Chakradhar is a thorn less variety of lime.

B: Citrus recticulata is loose skinned oranges.

C: Rasraj is canker resistant variety of lime .

D: Fruit granulation in citrus is a fungal disease.

E: Pineapple and Hamlin are cultivars of sweet oranges.

Choose the correct answer from the options given below:

(A)

A, B, C and D only

(B)

B, C, D and E only

(C)

A, B, D and E only

(D)

A, B, C and E only

Q.No. 19

Saponification reaction is an example of:

(A)

Ester hydrolysis reaction

(B)

Trans-esterification reaction

(C)

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Fischer-esterification reaction

(D)

Addition reaction

Q.No. 20

Given below are the two statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A: Concentration of methane in the atmosphere has been doubled in last 250 years

Reason R: Wetlands and rice-fields are the major sources of methane

In the light of the above statements, choose the most appropriate answer from the options given below

(A)

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

(B)

Both A and R are correct and R is NOT the correct explanation of A

(C)

A is correct but R is not correct

(D)

A is not correct but R is correct

Q.No. 21

Given below are two statements:

Statement I: High densities of crop plants may increase protein and oil content in grains.

Statement II: In general, high density of crop plants are not conducive for pests and diseases.

In light of the above statements, choose the most appropriate answer from the options given below:

(A)

Both statement I and statement II is correct

(B)

Both statement I and statement II is incorrect

(C)

statement I is correct but statement II is incorrect

(D)

statement I is incorrect but statement II is correct

Q.No. 22

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Read the following statements and choose the correct statements:

A: Foot and mouth disease is caused by virus.

B: Brucellosis disease is caused by bacteria.

C: Haemorrhagic septicamia is caused by bacteria.

D: Rinderpest is caused by virus.

Choose the correct answer from the options given below:

(A)

A, B and D only

(B)

A, B and C only

(C)

A and B only

(D)

A, C and D only

Q.No. 23

Which of the following is not a modification of root?
A. Turnip
B. Potato
C. Carrot
D. Sweet Potato
E. Zaminkand
Choose the correct answer from the options given below:

(A)

A, C only

(B)

B, D, E only

(C)

B, E only

(D)

D, E only

Q.No. 24

Given below are two statements:

Statement I: Cu is more reactive than hydrogen.

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Statement II: E^0Cu^{2+}/Cu is negative

Choose the correct answer from the options given below:

(A)

Both Statement I and Statement II are true

(B)

Both Statement I and Statement II are false

(C)

Statement I is true but Statement II is false

(D)

Statement I is false but Statement II is true

Q.No. 25

A non-volatile solute (Molar Mass 58g/mol) of 0.9 g was dissolved in 90 g of benzene (boiling point of benzene= 353.25K) . The boiling point of solution is: [Given K_b for benzene is =2.53k kg mol^{-1}]

(A)

351.79 K

(B)

353.67 K

(C)

353. 97 K

(D)

354.17 K

Q.No. 26

The technique in which the liquid boils, when the sum of vapour pressure due to organic liquid (P_1) and that due to water (P_2) becomes equal to the atmosphere pressure (P) is:

(A)

Sublimation

(B)

Fractional Distillation

(C)

Steam Distillation

(D)

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Evaporation

Q.No. 27

What is the name of fertilizer prepared from Rhizobium culture?

(A)

Bio-fertilizer

(B)

Azotobacterin

(C)

Rhizobium

(D)

Nitrogin

Q.No. 28

Given below two statements, One is labelled as Assertion A and the other labelled as Reason R:

Assertion A: Ions of the same charge in a 3d series show progressive decreases in radius with increasing atomic number.

Reason R: As the new electron enters in a d-orbital, the nuclear charge increases by unity.

In light of the above statements, Choose the most appropriate answer from the options given below:

(A)

Both A and R are correct but R is the correct explanation of A

(B)

Both A and R are correct but R is NOT the correct explanation of A

(C)

A is correct but R is not correct

(D)

A is not correct but R is correct

Q.No. 29

Which of the following is not the characteristics differentiate bryophytes from algae
A. Attachment to a substratum by unicellular rhizoids
B. Haploid condition
C. Filamentous body
D. Unicellularity and colonial habitat
E. Lack of true roots and stems
Choose the correct answer from the options given below:

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(A)

A, C, D only

(B)

A, B, C, D only

(C)

A, B, E only

(D)

B, C, D, E only

Q.No. 30

In the Hitchhiker's Guide to the Galaxy, it was shown that the planet Vogsphere was inhabited by Vogons-an alien race of sentient bureaucrats. At the height of Vogon's technology and evolution, a large collection of asteroids collided with Vogsphere and due to the impact, the planet split into two as was the Vogon population. Much of the Vogon population succumbed to the collision but many pulled through and survived on both pieces of the planet. As the time progressed following catastrophe, the genetic structure of the Vogon population began to differ from each other since they were no longer reproducing with each other. This process is known as

(A)

Genetic conversion

(B)

Sympatric Speciation

(C)

Evolutionary segregation

(D)

Allopatric Speciation

Q.No. 31

If the container have equal masses of CH_4 and H_2, then the mole fraction of CH_4 is:

(A)

1/9

(B)

4/9

(C)

5/9

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(D)

8/9

Q.No. 32

In the evolution of man, several changes occur in the ancestral characters. Which of the following changes is irrelevant in this context?

(A)

Change of diet from fruits, hard nuts and roots to softer foods

(B)

Perfection in the structure and working of hand for tool making

(C)

Loss of tail from body

(D)

Increase in the ability to communicate with others

Q.No. 33

Which of the following species is/are Lewis acid?

A: BCl_3

B: BF_3

C: Mg^{2+}

D: OH^-

E:CO^{3+}

Choose the correct answer from the options given below:

(A)

A, B , C and E only

(B)

A and B only

(C)

B only

(D)

A, B and E only

Q.No. 34

Given below are two statements:

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Statement I: Intergeneric hybridization refers to crossing between two different genera of two different families.

Statement II: Cross incompatibility, hybrid unviability and hybrid sterility and hybrid breakdown are the main barriers to distant hybridization.

In light of the above statements, choose the most appropriate answer from the options given below:

(A)

Both statement I and statement II is correct

(B)

Both statement I and statement II is incorrect

(C)

statement I is correct but statement II is incorrect

(D)

statement I is incorrect but statement II is correct

Q.No. 35

Given below are two statements:

Statement I: Crop water requirement is the quantity of water required for their normal growth and yield.

Statement II: Irrigation requirement is the quantity of water applied to crops to supplement rainfall and soil profile moisture.

In light of the above statements, choose the most appropriate answer from the options given below:

(A)

Both statement I and statement II is correct

(B)

Both statement I and statement II is incorrect

(C)

statement I is correct but statement II is incorrect

(D)

statement I is incorrect but statement II is correct

Q.No. 36

Match List I with List II:

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List I	List II
Types of solids	Examples
A. Molecular Solids	I. MgO
B. Ionic Solids	II. SiC
C. Metallic Solids	III. CCl_4
D. Covalent Solids	IV. Ag

Choose the correct answer from the options given below:

(A)

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

(B)

A-III, B-II, C-IV, A-I

(C)

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

(D)

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

Q.No. 37

Read the following statements and choose the correct statements:

A: Almost 70% of the grapes are consumed as fresh.

B: Almost 85% of the grapes are used for wine making.

C: Grapes is evergreen crop.

D: Centre of origin of grapes is Armenian.

E: Maharashtra is leading producer of grapes in India.

Choose the correct answer from the options given below:

(A)

B, C and E only

(B)

B, D and E only

(C)

A, D and E only

(D)

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C, D and E only

Q.No. 38

Arrange the following periods in Chronical order:

A: Permian

B:Devonian

C: Cambrian

D: Ordovician

Choose the correct answer from the options given below:

(A)

C>E>B>D>A

(B)

B>E>C>A>D

(C)

A>C>E>D>B

(D)

D>B>E>A>C

Q.No. 39

Match List I and List II

List I	List II
A. Indole Acetic Acid	I. Increase length of grapes stalks
B. Zeatin	II. Hastens fruit ripening in tomatoes
C. Gibberellic acid	III. Overcome apical dominance
D. Ethephon	IV. Rooting in stem cuttings

Choose the correct answer from the options given below:

(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 40

Match List I with List II:

List I	List II
A. *Monoascus purpureus*	I. Streptokinase
B. *Trichoderma polysporum*	II. Black Pepper
C. *Aspergillus niger*	III. Cylcosporin A
D. *Streptococcus*	IV. Citric acid

Choose the correct answer from the options given below:

(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 41

Formalin is particularly used to preserve biological specimens laboratory. It is a:

(A)

50% aqueous solution of formaldehyde

(B)

50% ethanolic solution of formaldehyde

(C)

60% aqueous solution of acetaldehyde

(D)

40% aqueous solution of methanal

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Q.No. 42

Which of the following DNA strand has the lowest melting point?

(A)

TGACAAACTTGT

(B)

AGGTGGACACCA

(C)

GCGGATGTGTCC

(D)

CATGCGTAGATC

Q.No. 43

Given below are the two Statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A: A morphology based approach to taxonomy is called alpha taxonomy and it is old fashioned.

Reason R: A multidisciplinary approach to taxonomy called omega taxonomy is favored in recent years as it excludes morphological features.

In the light of the above statements, choose the most appropriate answer from the options given below

(A)

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

(B)

Both A and R are correct and R is the NOT correct explanation of A

(C)

A is correct but R is not correct

(D)

A is not correct but R is correct

Q.No. 44

Given below are two statements:

Statement I: Boro rice is photoperiod sensitive and grown under irrigated conditions.

Statement II: Most commonly grown wheat (Triticium aestivum) is a hexaploid (2n=6x=42)

In light of the above statements, choose the most appropriate answer from the options given below:

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(A)

Both statement I and statement II is correct

(B)

Both statement I and statement II is incorrect

(C)

statement I is correct but statement II is incorrect

(D)

statement I is incorrect but statement II is correct

Q.No. 45

Match List I with List II:

List I	List II
Crop	Associated
A. Cauliflower	I. Pod
B. Bottle gourd	II. Pepo
C. Tomato	III. Berry
D. Okra	IV. Curd

Choose the correct answer from the options given below:

(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 46

Given below are the two statements

Statement I: A color blind girl is rare because she will inherit the trait only when her father and maternal grandfather were color blind.

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Statement II: A color blind mother and normal father would have color blind sons and daughters.

In the light of above statements, choose the most appropriate answer from the options given below:

(A)

Both statement I and statement II are correct

(B)

Both statement I and statement II are incorrect

(C)

statement I is correct but statement II is incorrect

(D)

statement I is incorrect but statement II is correct

Q.No. 47

The sequence of a DNA strand is 3'TTCGATG 5'. The sequence of the complimentary strand will be

1. 5'AAGCGTAC 3'
2. 5'CATGCGAA 3'
3. 5'CATGCGTT 3'
4. 3'CATGCGAA 5'

(A)

1

(B)

2

(C)

3

(D)

4

Q.No. 48

The edge length of the unit cells constituting simple cubic lattice, bcc and fcc unit cells in terms of the radius of sphere (r) are respectively,

(A)

0.5r, 043r, 0.35r

(B)

0.35r, 043r, 0.5r

(C)

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2r, 2.31r, 2.83r

(D)

2.83r, 2.31r, 2r

Q.No. 49

Match List I and List II

List I	List II
A. Lichens	I. Pioneer species
B. Invade bare area	II. Hydrosere
C. Reed swamp stage	III. Final Stable Community
D. Climax	IV. Lithosere

Choose the correct answer from the options given below:

(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 50

Given below two statements, One is labelled as Assertion A and the other labelled as Reason R:

Assertion A: m-Nitrophenol is less acidic than p-Nitrophenol

Reason R: Nitro group helps in stabilization of the phenoxide ion by dispersal of negative charge due to resonance of p-nitrophenol

In light of the above statements, Choose the most appropriate answer from the options given below:

(A)

Both A and R are correct but R is the correct explanation of A

(B)

Both A and R are correct but R is NOT the correct explanation of A

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(C)

A is correct but R is not correct

(D)

A is not correct but R is correct

Q.No. 51

How many plants of mango can be planted in one hectare area if row to row and plant to plant spacing is 8 meter?

(A)

156

(B)

146

(C)

176

(D)

640

Q.No. 52

Lithium react with element "X" make an alloy (white metal)used in bearings for motor engines. "X" is.....

(A)

Al

(B)

Mg

(C)

Pb

(D)

Cr

Q.No. 53

Read the following statements and choose the correct statements:

A: Brinjal is fourth major vegetable crop of India.

B: Cabbage is third major vegetable crop of India.

C: Pea is a vegetable crop as well as pulse crop.

D: In India, West Bengal is leading producer of cauliflower.

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E: Uttar Pradesh is leading producer of potato in India.

Choose the correct answer from the options given below:

(A)

A, B, C and D only

(B)

A, B, C and E only

(C)

B, C ,D and E only

(D)

A, C, D and E only

Q.No. 54

Given below are two statements, one is labelled as Assertion and other is labelled as Reason:

Assertion A: Most protozoa are free living in fresh water or marine environments.

Reason R: Moisture is absolutely required for protozoa.

In light of the above statements, choose the most appropriate answer from the options given below:

(A)

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

(B)

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

(C)

A is correct but R is incorrect

(D)

A is incorrect but R is correct

Q.No. 55

In contrast to eukaryotes, prokaryotes lack

1. Aerobic respiration
2. DNA
3. Ribosome
4. Mitochondria

(A)

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1

(B)

2

(C)

3

(D)

4

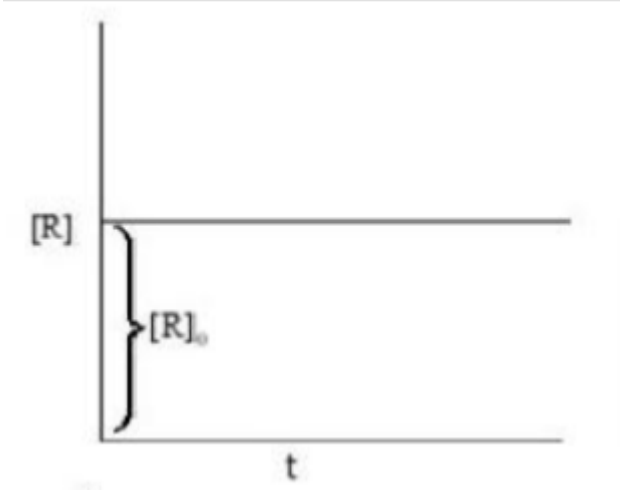
Q.No. 56

For a zero order reaction, the rate constant is

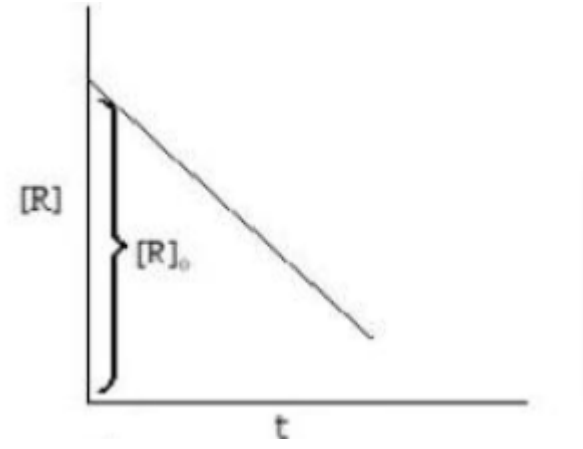
$$K = \frac{[R]_0 - [R]}{t}$$

Which of the following is correct graph for it?

(A)



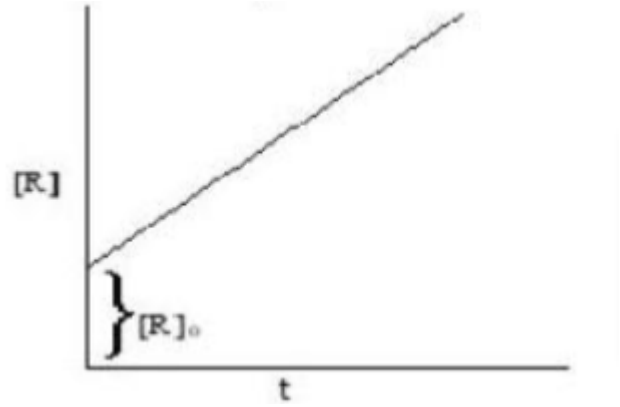
(B)



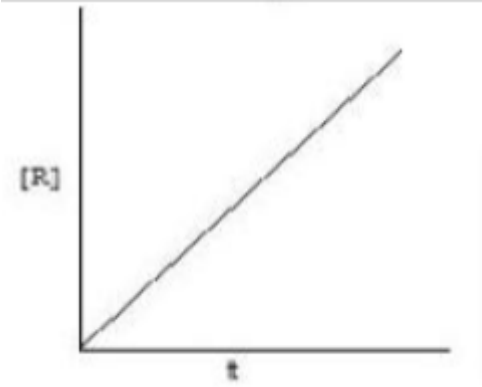
(C)

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(D)



Q.No. 57

In the Modern Periodic table, Scandium is placed in

(A)

Group-IIIA, Period 4

(B)

Group-IIIA, Period 3

(C)

Group-IIIB, Period 4

(D)

Group-IIIB, Period 3

Q.No. 58

Match List I and List II

List I	List II
A. Aposematic Coloration	I. Cuckoo bee
B. Batesian Mimicry	II. Hawkmoth larva
C. Mullerian Mimicry	III. Poison dart frog
D. Cryptic Coloration	IV. Canyon tree frog

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Choose the correct answer from the options given below:

(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 59

Which of the following statements are correct?

A: Hydrides of group 13 acts as Lewis acids.

B: On addition of gypsum to cement, the setting time decreases.

C: Diamond is thermodynamically most stable allotrope of carbon.

D: Beryllium exhibits coordination number of more than four.

E: Beryllium is not readily attached by acids because the presence of an oxide film of the surface of the metal.

Choose the correct answer from the options given below:

(A)

A and C only

(B)

B and C only

(C)

A and E only

(D)

A and B only

Q.No. 60

Given below are two statements:

Statement I: If milking is incomplete there is a tendency for the cow to dry off too soon.

Statement II: Incomplete milking results in udder infection.

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In light of the above statements, choose the most appropriate answer from the options given below:

(A)

Both statement I and statement II is correct

(B)

Both statement I and statement II is incorrect

(C)

statement I is correct but statement II is incorrect

(D)

statement I is incorrect but statement II is correct

Q.No. 61

Match List I with List II:

List I	List II
Animal species	**Length of estrous cycle**
A. Buffalo	I. 16 – 17 days
B. Mare	II. 19 – 20 days
C. Sheep	III. 20 -23 days
D. Sow	IV. 20-22 days

Choose the correct answer from the options given below:

(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 62

Brown heat of radish is caused due to which of the following?

(A)

Variation in temperature

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(B)

Calcium deficiency

(C)

Boron deficiency

(D)

Delayed harvesting

Q.No. 63

Which of the following compounds are secondary metabolites?
A. Morphine
B. Abrin
C. Lecithin
D. Uridine
E. Curcumin
Choose the correct answer from the options given below:

(A)

A, E only

(B)

A, B, E only

(C)

C, D only

(D)

A, C only

Q.No. 64

Identify "P" in the given reaction (reaction is not balanced):

$$\mathrm{CO(g) + H_2(\ g) \xrightarrow[Co]{catalyst} P}$$

(A)

$CO_2 + H_20$

(B)

CH_3OH

(C)

HCOOH

(D)

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HCHO

Q.No. 65

Given below are two statements, one labelled as Assertion A and Other labelled as Reason R:

Assertion A: Somaclonal variations may be present in plants produced from callus.

Reason R: Somaclonal variations are caused due to recombination during meiosis.

In light of the above statements, Choose the correct answer from the options given below:

(A)

Both A and R is correct But R is the correct explanation of A

(B)

Both A and R is correct But R is not the correct explanation of A

(C)

A is correct but R is not correct

(D)

A is not correct but R is correct

Q.No. 66

What is the total irrigated area of India?

(A)

58.5 million hectare

(B)

63.4 million hectare

(C)

78.5 million hectare

(D)

88.5 million hectare

Q.No. 67

Which of the following polymers is not an example of chain growth polymerization?

(A)

Polythene

(B)

Bakelite

(C)

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Teflon

(D)

Polyacrylonitrile

Q.No. 68

Read the following statement and choose the correct statements:

A: Adsali sugarcane takes 12 month for harvesting

B: Cover crops generally grow fast and cover the surface and help in reducing loss of moisture and soil erosion.

C: Aman rice is mainly transplanted rice and grown in pre-monsoon period in the deep water areas.

D: Mixed cropping is the growing of two or more crops simultaneously on the same piece of land.

E: Retting is the microbial process.

Choose the correct answer from the options given below:

(A)

A, B and C only

(B)

B, D and E only

(C)

B, C and D only

(D)

C, D and E only

Q.No. 69

Match List I with List II:

List I	List II
A. DNA polymerase-III	I. Relieves tasque
B. DNA gyrase	II. Synthesizes short stretches of DNA
C. DNA polymerase-I	III. Synthesizes DNA
D. DNA primase	IV. Removes primer and fills small gaps during DNA repair reactions

Choose the correct answer from the options given below:

(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 70

What is total pulse production in India?

(A)

15 million tonnes

(B)

20 million tonnes

(C)

25 million tonnes

(D)

30 million tonnes

Q.No. 71

Given below are two statements:

Statement I: Dryland agriculture is occupying 67% of the cultivated area and contributing more than 50% to the total food grains.

Statement II: India received average annual rainfall of about 1000mm which is below the global average rainfall.

In light of the above statements, choose the most appropriate answer from the options given below:

(A)

Both statement I and statement II is correct

(B)

Both statement I and statement II is incorrect

(C)

statement I is correct but statement II is incorrect

(D)

statement I is incorrect but statement II is correct

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Q.No. 72

Which of the following statements related to quantum mechanical model of atom is incorrect?

(A)

The Schrodinger equation cannot be solved exactly for multielectron atom

(B)

The quantum mechanics predicts all aspects for the hydrogen atom spectrum.

(C)

It obeys the Heisenberg uncertainty principle

(D)

The wave function is the mathematical function and has physical meaning.

Q.No. 73

Which one of the following process during decomposition is correctly described?

(A)

Catabolism- last step in the decomposition under fully anaerobic condition

(B)

Humification- leads to the accumulation of dark colored substance, humus, and which undergoes microbial action at a very fast rate

(C)

Fragmentation- carried out by organism such as earthworm

(D)

Leaching- water soluble inorganic nutrients rise to the top layers of the soil

Q.No. 74

Haemophilia is an inherited bleeding disorder in which the blood does not clot normally due to lack of blood clotting proteins. This rare diseases is commonly observed in human males then in females because it is caused by-

(A)

Y-linked recessive allele

(B)

X-linked recessive allele

(C)

Autosomal recessive allele

(D)

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X-linked dominant allele

Q.No. 75

Match List I with List II:

List I	List II
Concentration expression	**Uses**
A. Mass percentage	I. Medicine
B. Volume Percentage	II. Concentration of pollutants
C. Mass by volume percentage	III. Industrial chemicals
D. Parts per million	IV. Liquid solutions

Choose the most appropriate answer from the options given below:

(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 76

Given below are two statements:

Statement I: Expansion of a gas against external pressure is called free expansion.

Statement II: No work is done during the expansion of an ideal gas when the process is reversible only.

Choose the correct answer from the options given below:

(A)

Both Statement I and Statement II are true

(B)

Both Statement I and Statement II are false

(C)

Statement I is true but Statement II is false

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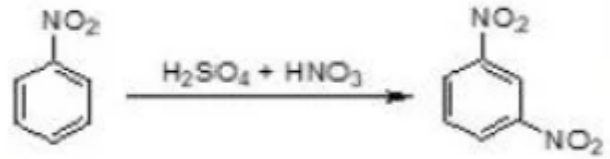
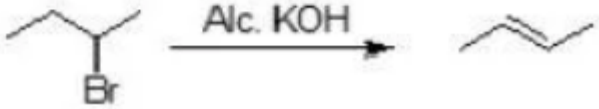
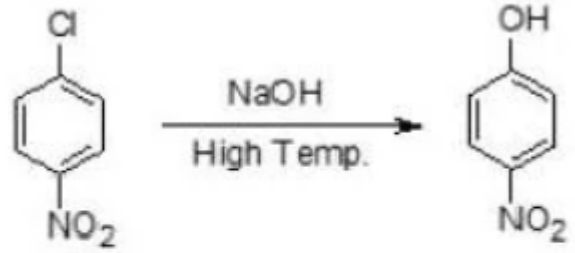
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(D)

Statement I is false but Statement II is true

Q.No. 77

Match List I with List II:

List I	List II
Reaction	**Type of reaction**
A. 	I. Nucleophilic substitution
B. 	II. Saytzeff elimination
C. 	III. Electrophilic addition
D. 	IV. Electrophilic substitution

Choose the correct answer from the options given below:

(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 78

Given below are the two statements

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Statement I: In the animal husbandry, inbreeding is one of the preferred methods to increase the yield of animals and improve the productivity.

Statement II: Continued close inbreeding will lead to the enhancement of fertility and productivity.

In the light of the above statements, choose the most appropriate answer from the options given below

(A)

Both statement I and statement II are correct

(B)

Both statement I and statement II are incorrect

(C)

statement I is correct but statement II is incorrect

(D)

statement I is incorrect but statement II is correct

Q.No. 79

Read the following statements and choose the correct statements:

A: Pusa 1121 is the ruling basmati rice variety.

B: C-306 is a drought tolerant wheat variety.

C: UPAS 120 is an early variety of pigeon pea.

D: Black soil are most suitable for cotton cultivation.

E: India ranks first in rice production.

Choose the correct answer from the options given below:

(A)

A, B, C and D only

(B)

B, C, D and E only

(C)

A, C, D and E only

(D)

A, B, D and E only

Q.No. 80

Which of the following device records the time interval when solar radiation reaches to the earth's surface with sufficient intensity?

(A)

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Pyranometer

(B)

Radiant flux

(C)

Heliograph

(D)

Pyrgeometer

Q.No. 81

Read the following statements and choose the correct statements:

A: Pusa Snowball-I is a late variety of cauliflower.

B: Pusa Himjyoti is an early variety of cauliflower.

C: Pusa Sharad is a mild early variety of cauliflower.

D: Pusa Deepali is an early variety pf cauliflower.

E: Pusa Snowball KT-25 is an early variety of cauliflower.

Choose the correct answer from the options given below:

(A)

B. D and E only

(B)

A, B and C only

(C)

A, C and D only

(D)

B, C and D only

Q.No. 82

Given below are two statements:

Statement I : Enzymes are made up of proteins with complex three dimensional structure.

Statement II: Enzymes are resistant to change in pH and temperature.

In light of the above statement, choose the most appropriate answer from the options given below:

(A)

Both statement I and statement II is correct

(B)

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Both statement I and statement II is incorrect

(C)

statement I is correct but statement II is incorrect

(D)

statement I is incorrect but statement II is correct

Q.No. 83

What is the correct sequence of the plants in a hydrosere?

A: Lantana

B: Hydrilla

C:Volvox

D: Oak

E: Pistia

Choose the correct answer from the options given below:

(A)

B>A>D>C>E

(B) C>B>A>E>D

(C)

B>C>A>D>E

(D)

C>B>E>A>D

Q.No. 84

Match List I with List II:

List I	**List II**
Variety	**Associated**
A. CO-7	I. Arka Surya x Tainung-1α
B. Arka Surya	II. Coorg Honey Dew x CP- 85
C. Pusa Nanha	III. Sunrise Solo x Pink Flesh Sweet
D. Arka Prabhath	IV. Dwarf Mutant Variety

Choose the correct answer from the options given below:

(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 85

Given below are two statements:

Statement I: Sex link traits can be seen only in human males since they are outcome of genes located on the X-Chromosome.

Statement II: Cystic fibrosis, which is characterized by an excessive secretion of mucus that can increase susceptibility to infection, is a life threatening genetic disorder caused by a dominants allele.

In light of above statement, Choose the correct answer from the options given below:

(A)

Both Statement I and statement II are correct

(B)

Both Statement I and statement II are incorrect

(C)

Statement I is correct but statement II is not correct

(D)

Statement I is not correct but statement II is correct

Q.No. 86

Consider the following reaction:

$$B < \frac{H_2}{Na/\text{ Liq. } NH_3} H_3C - C \equiv C - CH_3 \frac{H_2}{Pd/C} \rightarrow A$$

The product 'A' and 'B' are:

(A)

Identical compounds

(B)

Optical isomers

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(C)

Geometrical isomers

(D)

Structural isomers

Q.No. 87

During of a certain period, density of a population in a particular habitat increases due to change in-

A: Morality

B: Natality

C: Emigration

D: Migration

Choose the correct answer from the options given below:

(A)

A and C only

(B)

A and E only

(C)

B and D only

(D)

C and E only

Q.No. 88

Read the following statements and choose the correct statements:

A: In India, highest tomato producing state is M.P.

B: In India, highest productivity of tomato is in Karnataka.

C: Odisha has maximum area of tomato in India.

D: Andhra Pradesh has maximum productivity of tomato.

E: West Bengal has the highest area under tomato in India.

Choose the correct answer from the options given below:

(A)

B, D and E only

(B)

A, B and C only

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(C)

A, C and D only

(D)

A, D and E only

Q.No. 89

Match List I and List II

List I	List II
A. Friedrich Miescher	I. Used X-ray analysis to investigate DNA structure
B. Rosalind Franklin	II. Provided experimental evidence of semiconservative DNA replication
C. James Watson	III. Discovered DNA
D. Mathew Meselson	IV. Elucidated 3-dimensional double helix DNA structure

Choose the correct answer from the options given below:

(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 90

Match List I with List II:

List I	**List II**
Material	**Conductance (Sm^{-1})**
A. Teflon	I. 2.1×10^{3}
B. Pure Water	II. 1.5×10^{-2}
C. Sodium	III. 1.0×10^{-18}
D. Silicon	IV. 3.5×10^{-5}

Choose the correct answer from the options given below:

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(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 91

For the following molecules/intermediates/species:

$$A - BH_3; \quad B - SiH_4; C - PCl_3; D - : CH_2; E - NH_3$$

Select the correct option for electrophile(s):

(A)

A. B, C and D only

(B)

A, B and C only

(C)

A only

(D)

A and D only

Q.No. 92

Match List I with List II:

List I	**List II**
Water quality	**Suitable crop**
A. Low salinity water	I. Wheat
B. Medium salinity water	II. Apple
C. Saline water	III. Sugarbeet
D. Normal water	IV. Alfalfa

Choose the correct answer from the options given below:

(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 93

Match the chemical composition in List I with its name in List II:

List I	**List II**
Chemical Composition	**Reagent**
A. Benzenesulphonyl chloride	I. Tollen's reagent
B. Anhydrous $ZnCl_2$ + Conc. HCl	II. Fehling A solution
C. Ammonical silver nitrate	III. Hinsberg's reagent
D. Aqueous $CuSO_4$ solution	IV. Lucas reagent

Choose the correct answer from the options given below:

(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 94

Which of the technique is associated with In-Vitro DNA replication
A. Polymerase chain reaction
B. ELISA
C. RT-PCR
D. Biolistics (Gene Gun)
E. Transformation
Choose the correct answer from the options given below:

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(A)

A only

(B)

A & C only

(C)

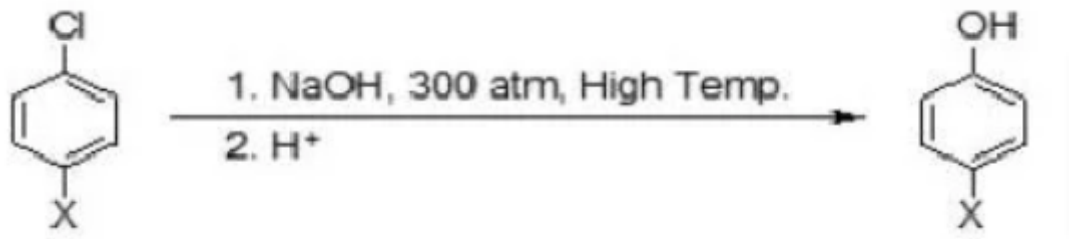
A & D only

(D)

C & E only

Q.No. 95

For the given reaction:



The rate of the reaction will be maximum, when 'X' is:

(A)

H

(B)

NO_2

(C)

CN

(D)

COOH

Q.No. 96

Given below are two statements:

Statement I: The division of cytoplasm takes plate by cell plate method in animals and furrow method in plants.

Statement II: The cytokinesis takes place after meiosis I and meiosis II separately or sometimes at the end of meiosis II only.

In light of the above statements, choose the most appropriate answer from the options given below:

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(A)

Both statement I and statement II is correct

(B)

Both statement I and statement II is incorrect

(C)

statement I is correct but statement II is incorrect

(D)

statement I is incorrect but statement II is correct

Q.No. 97

Given below are two statements, one is labelled as Assertion and other is labelled as Reason:

Assertion A: Sodium Benzoate is used as preservatives in fruit product having natural colour.

Reason R: For every kilogram of fruit juice or pulp 10 gram sodium benzoate is added.

In light of the above statements, choose the most appropriate answer from the options given below:

(A)

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

(B)

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

(C)

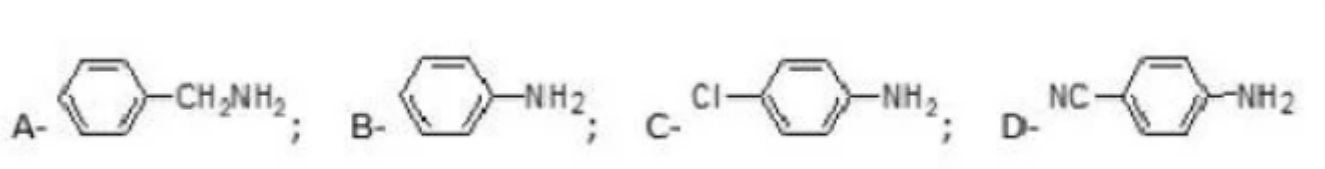
A is correct but R is incorrect

(D)

A is incorrect but R is correct

Q.No. 98

Consider the following amines:



The basic strength of these amines in increasing order is:

(A)

C<D<A<B

(B)

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D<B<C<A

(C)

C<D<B<A

(D)

D<C<B<A

Q.No. 99

Given below are two statements:

Statement I: Hybrid tea and floribunda roses are generally propagated by cutting.

Statement II: The rose rootstocks used in India are propagated by stem cuttings.

In light of the above statements, choose the most appropriate answer from the options given below:

(A)

Both statement I and statement II is correct

(B)

Both statement I and statement II is incorrect

(C)

statement I is correct but statement II is incorrect

(D)

statement I is incorrect but statement II is correct

Q.No. 100

Which one these are the unique characteristic of an insect?

(A)

Four pair of legs, book legs and antennae

(B)

Cephalothorax, Malpighian tubules, compound eyes

(C)

Three pairs of legs, antennae, tracheal system

(D)

Gills, Non-chitinous exoskeleton, ommatidia

Q.No. 101

Given below are two statements:

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Statement I: Herbicide mixture broadens the spectrum of herbicidal action for controlling weeds.

Statement II: Independent and antagonistic effect of herbicide mixture increases the weed control efficiency.

In light of the above statements, choose the most appropriate answer from the options given below:

(A)

Both statement I and statement II is correct

(B)

Both statement I and statement II is incorrect

(C)

statement I is correct but statement II is incorrect

(D)

statement I is incorrect but statement II is correct

Q.No. 102

Given below are two statements, one labelled as Assertion A and Other labelled as Reason R:

Assertion A: Natural selection is the outcome of difference in survival and reproduction among individuals that show variation in one or more traits.

Reason R: Adoptive forms of the given trait tend to become more common; less adoptive ones become less common or disappear.

In light of the above statements, Choose the correct answer from the options given below:

(A)

Both A and R is correct But R is the correct explanation of A

(B)

Both A and R is correct But R is not thrcorrect explanation of A

(C)

A is correct but R is not correct

(D)

A is not correct but R is correct

Q.No. 103

For the general reaction, A + 2B -----> C + D

Which is the following statement is correct?

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(A)

Rate of disappearance of A=Rate of disappearance of B

(B)

Rate of disappearance of A=1/2Rate of disappearance of C

(C)

Rate of disappearance of A=1/2Rate of disappearance of B

(D)

Rate of disappearance of A=1/2Rate of disappearance of D

Q.No. 104

Which of the following compounds dose not react with sodium metal?

(A)

Ethyne

(B)

1-Pentyne

(C)

2-Pentyne

(D) 1-Propyne

Q.No. 105

In mammals, which of the following mechanism helps to produce concentrated urine?

(A)

Exchange of NaCl between the ascending limp of Henle's loop and the descending limb of vasa recta

(B)

NaCl returns to the interstitium by the ascending portion vasa recta

(C)

Small amount of Urea enters the ascending limb of Henle's loop and transport back to the interstitium

(D)

All of the above

Q.No. 106

The polymerase chain reaction is the technique that

(A)

Is used for in vivo replication of DNA

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(B)

Is used for in vitro synthesis of mRNA

(C)

Is used for in vivo synthesis of mRNA

(D)

Is used for in vitro replication of specific DNA sequence using thermos stable DNA polymerase

Q.No. 107

The process of electron transport system in mitochondrial matrix involve:

A. $NADH + H \longrightarrow$ NAD (Complex I, NADH dehydrogenase)
B. $\frac{1}{2} O_2 + 2H \xrightarrow{2H} H_2O$ (Complex IV, Cytochrome c oxidase)
C. Complex III (Cytochrome b)
D. Succinate $\longrightarrow$ Fumarate (Complex II, Succinate dehydrogenase)
E. $ADP + P \longrightarrow ATP$

Choose the correct answer from the options given below:

(A)

A>C>D>B>E

(B)

A>B>D>C>E

(C)

A>D>C>B>E

(D)

A>B>C>E>D

Q.No. 108

Match List I with List II:

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List I	List II
Cattle Breed	(Place
A. Bachaur	I. Kerala
B. Punganur	II. Andhra Pradesh
C. Umblachery	III. Bihar
D. Vechure	IV. Tamil Nadu

Choose the correct answer from the options given below:

(A)

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

(B)

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

(C)

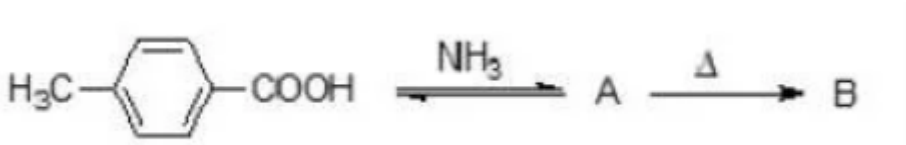
A-III, B-II, C-IV, D-I

(D)

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

Q.No. 109

Consider the following reaction:



The number of sp^2 hybridized carbons in 'B' is:

(A)

6

(B)

7

(C)

8

(D)

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Q.No. 110

Given below are two statements:

Statement I : Riverine buffaloes have 50 chromosomes.

Statement II: Swamp buffaloes have 49 chromosomes.

In light of the above statement, choose the most appropriate answer from the options given below:

(A)

Both statement I and statement II is correct

(B)

Both statement I and statement II is incorrect

(C)

statement I is correct but statement II is incorrect

(D)

statement I is incorrect but statement II is correct

Q.No. 111

What would be the final volume of the gas, if pressure of 3L of H_2 tripled and temperature is raised from 300 K to 400 k?

(A)

0.67 L

(B)

1.33 L

(C)

2.5 L

(D)

3.0 L

Q.No. 112

Match List I with List II:

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List I	List II
Crop	Weed species
A. Berseem	I. Wild rice
B. Wheat	II. Wild oat
C. Rice	III. Chicory
D. Tea	IV. Loranthus

Choose the correct answer from the options given below:

(A)

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

(B)

A-I, B-II. C-III, D-IV

(C)

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

(D)

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

Q.No. 113

Read the following statement and choose the correct statements:

A: A deficiency of the essential nutrient results in failure to complete lifecycle.

B: The essential elements must have direct effect on growth and metabolism.

C: Deficiency of essential element cannot be corrected.

D: Plant nutrient essentiality criteria has been given by Arnone and Stout.

Choose the correct answer from the options given below:

(A)

A, B and D only

(B)

B, C and D only

(C)

A, C and D only

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(D)

A, B, C and D

Q.No. 114

Consider the following reaction sequence:

$$\mathrm{H_3C-H=CH_2} \xrightarrow[2\cdot \mathrm{H_2O/H_2O_2/^{\theta}OH}]{1\cdot \mathrm{B_2H_8}} \mathrm{A} \xrightarrow[413\ \mathrm{K}\rightarrow]{\mathrm{H_2SO_4}} \mathrm{B}$$

The number of π bond in product B is:

(A)

0

(B)

1

(C)

2

(D)

3

Q.No. 115

Given below are two statements:

Statement I: Generally, only non-metal oxides is acidic and oxides of some metals in high oxidation state also found to have acidic character.

Statement II: Oxides like CO, No and N_2O are neutral oxides.

Choose the correct answer from the options given below:

(A)

Both Statement I and Statement II are true

(B)

Both Statement I and Statement II are false

(C)

Statement I is true but Statement II is false

(D)

Statement I is false but Statement II is true

Q.No. 116

Match List I with List II:

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List I	List II
Soil Types	Spacing of water drainage in m
A. Clay	I. 30 - 100
B. Loam	II. 30 - 70
C. Sandy loam	III. 10 - 20
D. Peat	IV. 20 - 35

Choose the correct answer from the options given below:

(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 117

Which of the following noble gases has highest positive electron gain enthalpy?

(A)

Ne

(B)

Ar

(C)

Kr

(D)

Xe

Q.No. 118

Given below are two statements:

Statement I: Budding is a method of vegetative propagation in which a twig is inserted in the rootstock.

Statement II: T-budding is also known as shield budding.

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In light of the above statements, choose the most appropriate answer from the options given below:

(A)

Both statement I and statement II is correct

(B)

Both statement I and statement II is incorrect

(C)

statement I is correct but statement II is incorrect

(D)

statement I is incorrect but statement II is correct

Q.No. 119

Which of the organelle does not contain genetic material?

(A)

Chloroplast

(B)

Nucleus

(C)

Vacuole

(D)

Mitochondria

Q.No. 120

Given below are two statements:

Statement I: Spontaneous process is irreversible process and may be reversed by some external agency.

Statement II: Decrease in enthalpy decides spontaneity of all process

Choose the correct answer from the options given below:

(A)

Both Statement I and Statement II are true

(B)

Both Statement I and Statement II are false

(C)

Statement I is true but Statement II is false

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(D)

Statement I is false but Statement II is true

Q.No. 121

Given below are two statements, one is labelled as Assertion and other is labelled as Reason:

Assertion A: Vitamin A deficiency is associated primarily with vision.

Reason R: Sign of Vitamin A deficiency are most likely to occur when cattle are fed high concentrate diet.

In light of the above statements, choose the most appropriate answer from the options given below:

(A)

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

(B)

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

(C)

A is correct but R is incorrect

(D)

A is incorrect but R is correct

Q.No. 122

The Biopolymer stored in animal body is:

(A)

Amylose

(B)

Cellulose

(C)

Sucrose

(D)

Glycogen

Q.No. 123

Reflex action has all of the following features, Except

1. Receiving of signal from a sensory organ
2. Transmission of impulse into the central nervous system through effector organ
3. Carrying of signal from central nervous system to the effector
4. Response to an involuntary peripheral nervous stimulation

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(A)

1

(B)

2

(C)

3

(D)

4

Q.No. 124

In the given reaction,

$$\underset{\text{A}}{2Cu_2O(s)} + \underset{}{Cu_2\,S(\,s)} \longrightarrow \underset{\text{B}}{6Cu(s)} + \underset{\text{C}}{SO_2(\,g)}$$

The oxidation number of Cu are A, B and C. A, B and C are respectively

(A)

+1,+2,0

(B)

+1,+1,0

(C)

+2,+1,0

(D)

+1,+2,+1

Q.No. 125

Match List I and List II

List I	List II
A. Coelomates	I. Aschelminths
B. Pseudocoelomates	II. Platyhelminths
C. Acoelomates	III. Annelids
D. Diploblastic	IV. Coelenterates

Choose the correct answer from the options given below:

(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 126

Ninhydrin reacts with amino acid to form colored complex. The equivalent ratio of ninhydrin and amino acid used in the reaction is respectively:

(A)

1:1

(B)

1:2

(C)

2:1

(D)

1:3

Q.No. 127 'The Evil Quartet' responsible for decline in biodiversity are
A. Habitat loss
B. Over exploitation
C. Ex-situ conservation
D. Co-extinction
E. Out breeding
Choose the correct answer from the options given below:

(A)

A, B only

(B)

A, B, D only

(C)

A, D only

(D)

B, D, E only

Q.No. 128

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A single stranded DNA molecule contain 80 nucleotides with equal number of A. C, G, T and this molecule can replicate and form double stranded DNA molecule. Which of the following double stranded DNA molecule would denature at a lower temperature than 80 base pair double stranded DNA?

(A)

80 base pair molecule with 25% of Adenine

(B)

60 base pair molecule with 40% of Guanine

(C)

40 base pair molecule with 10% of Thymine

(D)

20 base pair molecule with 20% of Cytosine

Q.No. 129

Given below are two statements:

Statement I: The optimum soil temperature for micro organisms is ranged from $40^{o}C$ to $45^{o}C$.

Statement II: Various microbiological processes like mineralization of nitrogen, nitrogen fixation, pesticide degradation etc are mainly influenced by soil temperature.

In light of the above statements, choose the most appropriate answer from the options given below:

(A)

Both statement I and statement II is correct

(B)

Both statement I and statement II is incorrect

(C)

statement I is correct but statement II is incorrect

(D)

statement I is incorrect but statement II is correct

Q.No. 130

Given below two statements, One is labelled as Assertion A and the other labelled as Reason R:

Assertion A: Catalyst provide an alternate pathway or reaction mechanism by reducing the activation energy between reactants and products.

Reason R: Arrhenius equation confirms that the higher the value of activation energy faster will be the rate of the reaction.

In light of the above statements, Choose the most appropriate answer from the options given below:

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(A)

Both A and R are correct but R is the correct explanation of A

(B)

Both A and R are correct but R is NOT the correct explanation of A

(C)

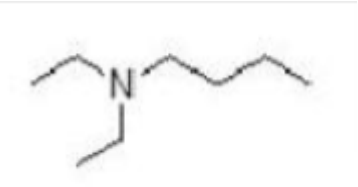
A is correct but R is not correct

(D)

A is not correct but R is correct

Q.No. 131

The IUPAC name of the following amine is:



(A)

N, N-Diethylbuty1amine

(B)

N, N-Diethyl-N-butylamine

(C)

N,N-Diethylbutan-1-amine

(D)

N,N-Diethylbutan-4-amine

Q.No. 132

Which of the following statements are correct?

A: In diborane, each boron atom uses sp^2 hybrids for bonding.

B: CuSO4 acts as an oxidizing agent.

C: Orthoboric acid has a layer structure in which planar BO_3 units are joined by hydrogen bonds.

D: Vitamin B12 contains Cobalt.

Choose the correct answer from the options given below:

(A)

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A and B only

(B)

C and D only

(C)

A and C only

(D)

B and C only

Q.No. 133

Bt tonic gene cloned from bacterium Bacillus thuringiensis when expressed in plants provide

(A)

Nematode resistance

(B)

Insect resistance

(C)

Drought resistance

(D)

Cold resistance

Q.No. 134

Read the following statements and choose the correct statements:

A: Kishenbhog is a popular mind season mango varieties of West Bengal.

B: Bombay Green is one of the earliest mango variety of North India.

C: Kesar is a popular mango variety of Maharashtra.

D: Dashari is a regular bearing mango variety.

E: Langra is a commercial mango variety of North India.

Choose the correct answer from the options given below:

(A)

A, B and E only

(B)

A, D and E only

(C)

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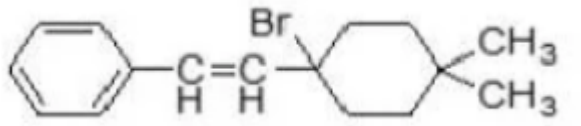
B,C and D only

(D)

A, C and E only

Q.No. 135

The position of -Br classified in the given compound is:



(A)

Benzyl

(B)

Allyl

(C)

Vinyl

(D)

Alkyl

Q.No. 136

Given below are the two Statements, one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A: Ecotherms are able to remain active under cold conditions.

Reason R: This happens because they are able to maintain internal temperature, even when the temperature outside fluctuates.

In the light of the above statements, choose the most appropriate answer from the options given below

(A)

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

(B)

Both A and R are correct and R is NOT the correct explanation of A

(C)

A is correct but R is not correct

(D)

A is not correct but R is correct

Q.No. 137

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Carbon monoxide is considered as a pollutant because it

1. Reacts with O_2 and converts it to CO_2
2. Inhibits glycolysis
3. Forms a stable compound with haemoglobin
4. Destroys the haemoglobin

(A)

1

(B)

2

(C)

3

(D)

4

Q.No. 138

Which of the following is incorrect?

(A)

Vessel is a long cylindrical tube like structure

(B)

Vessels contain protoplasm

(C)

Gymnosperm lack vessels in their xylem

(D)

Presence of vessel is a characteristic feature of angiosperms

Q.No. 139

Which of the following is not related to the purification of colloidal solutions?

(A)

Dialysis

(B)

Ultrafiltration

(C)

Tyndall effect

(D)

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Electro-dialysis

Q.No. 140

Which of the following ore does not match with its formula?

(A)

Bauxite-$AlO_x(OH)_{3-2x}$ where $0<x<1$

(B)

Kaolinite-$Al_2(OH)_4\ Si_2O_5$

(C)

Malachite-$CuCO_3.2Cu(OH)_2$

(D)

Calamine-$ZnCO_3$

Q.No. 141

What is the primary function of colostrum?

(A)

To provide nutrition to calf

(B)

To give a laxative effect which is helpful in expulsion of muconium (first faeces)

(C)

To fortify the calf's disease resistance

(D)

To protect calf from hunger

Q.No. 142

Given below are two statements:

Statement I: Chlorophyceae store food in the form of oil droplets and have a rigid cell wall made up of an inner layer of cellulose and inner layer of pectose.

Statement II: Phaeophyceae store food in the form of mannitol and cells have a cellular wall usually covered by the outside by algin.

In light of above statement, Choose the correct answer from the options given below:

(A)

Both Statement I and statement II are correct

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(B)

Both Statement I and statement II are incorrect

(C)

Statement I is correct but statement II is not correct

(D)

Statement I is not correct but statement II is correct

Q.No. 143

4p and 5d orbitals have X and Y angular nods, respectively. X and Y are respectively,

(A)

0 and 1

(B)

1 and 2

(C)

2 and 3

(D)

3 and 4

Q.No. 144

A typical embryo sac in Angiosperms at maturity is

1. 7 nucleate and 8 celled
2. 8 nucleate and 7 celled
3. 4 nucleate and 7 celled
4. 8 nucleate and 8 celled

(A)

1

(B)

2

(C)

3

(D)

4

Q.No. 145

Given below are two statements, one is labelled as Assertion and other is labelled as Reason:

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Assertion A: December- February is ideal time for rose budding (T-budding) in northern plains of India.

Reason R: The commonly used rootstock for budding is Eduard rose.(R.bourboniana)

In light of the above statements, choose the most appropriate answer from the options given below:

(A)

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

(B)

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

(C)

A is correct but R is incorrect

(D)

A is incorrect but R is correct

Q.No. 146

Match List I and List II

List I	List II
A. Haemophilus influenzae	I. Common cold
B. Rhino virus	II. Elephantiasis
C. Wuchereria malayi	III. Pneumonia
D. Plasmodium falciparum	IV. Malignant malaria

Choose the correct answer from the options given below:

(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 147

Given below are two statements:

Statement I: Water constitutes about 70 % of animal's body weight.

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Statement II: A loss of 7 to 10% of body water results in death.

In light of the above statements, choose the most appropriate answer from the options given below:

(A)

Both statement I and statement II is correct

(B)

Both statement I and statement II is incorrect

(C)

statement I is correct but statement II is incorrect

(D)

statement I is incorrect but statement II is correct

Q.No. 148

Which of the following statement is not a characteristic in prokaryotic cells?

(A)

Uncovered DNA

(B)

DNA is associated with histones

(C)

They lack membrane-enclosed organelles

(D)

Divide by binary fission

Q.No. 149

Match List I with List II:

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List I	List II
Structure	**Function**
A. Glycocalyx	I. Attachment of cells.
B. Nucleoid	II. Co-ordinated movement of materials and storage.
C. Exozymes	III. Survival during adverse environmental conditions
D. Endospores	IV. Genetic information package.

Choose the correct answer from the option given below:

(A)

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

(B)

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

(C)

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

(D)

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

Q.No. 150

Species A has 2n=12 and species B has 2n=18. What are the possible chromosome numbers that may be found in an allotetraploid formed from species A and species B?

1. 27, 30, 33
2. 12, 18, 6
3. 9, 18, 27
4. 12, 18, 30

(A)

1

(B)

2

(C)

3

(D)

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Answer Sheet

Q.No	Answer
Q.No. 1	(D)
Q.No. 2	(B)
Q.No. 3	(A)
Q.No. 4	(A)
Q.No. 5	(C)
Q.No. 6	(B)
Q.No. 7	(A)
Q.No. 8	(B)
Q.No. 9	(A)
Q.No. 10	(B)
Q.No. 11	(D)
Q.No. 12	(D)
Q.No. 13	(C)
Q.No. 14	(B)
Q.No. 15	(C)
Q.No. 16	(B)
Q.No. 17	(B)
Q.No. 18	(D)
Q.No. 19	(A)
Q.No. 20	(B)
Q.No. 21	(D)
Q.No. 22	(A)
Q.No. 23	(C)
Q.No. 24	(B)
Q.No. 25	(B)
Q.No. 26	(C)
Q.No. 27	(D)
Q.No. 28	(A)
Q.No. 29	(C)
Q.No. 30	(D)
Q.No. 31	(A)
Q.No. 32	(C)
Q.No. 33	(A)
Q.No. 34	(D)

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Q.No. 35	(A)
Q.No. 36	(A)
Q.No. 37	(C)
Q.No. 38	(A)
Q.No. 39	(C)
Q.No. 40	(B)
Q.No. 41	(D)
Q.No. 42	(A)
Q.No. 43	(C)
Q.No. 44	(D)
Q.No. 45	(C)
Q.No. 46	(C)
Q.No. 47	(A)
Q.No. 48	(C)
Q.No. 49	(A)
Q.No. 50	(A)
Q.No. 51	(A)
Q.No. 52	(C)
Q.No. 53	(D)
Q.No. 54	(A)
Q.No. 55	(D)
Q.No. 56	(B)
Q.No. 57	(A)
Q.No. 58	(C)
Q.No. 59	(C)
Q.No. 60	(A)
Q.No. 61	(C)
Q.No. 62	(C)
Q.No. 63	(B)
Q.No. 64	(B)
Q.No. 65	(C)
Q.No. 66	(B)
Q.No. 67	(B)
Q.No. 68	(B)
Q.No. 69	(D)
Q.No. 70	(C)
Q.No. 71	(B)
Q.No. 72	(D)

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Q.No. 73	(C)
Q.No. 74	(B)
Q.No. 75	(C)
Q.No. 76	(B)
Q.No. 77	(C)
Q.No. 78	(C)
Q.No. 79	(A)
Q.No. 80	(C)
Q.No. 81	(C)
Q.No. 82	(C)
Q.No. 83	(D)
Q.No. 84	(A)
Q.No. 85	(B)
Q.No. 86	(C)
Q.No. 87	(C)
Q.No. 88	(C)
Q.No. 89	(D)
Q.No. 90	(D)
Q.No. 91	(A)
Q.No. 92	(B)
Q.No. 93	(B)
Q.No. 94	(B)
Q.No. 95	(B)
Q.No. 96	(D)
Q.No. 97	(C)
Q.No. 98	(D)
Q.No. 99	(D)
Q.No. 100	(C)
Q.No. 101	(C)
Q.No. 102	(A)
Q.No. 103	(C)
Q.No. 104	(C)
Q.No. 105	(D)
Q.No. 106	(D)
Q.No. 107	(A)
Q.No. 108	(C)
Q.No. 109	(B)
Q.No. 110	(C)

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Q.No. 111	(B)
Q.No. 112	(D)
Q.No. 113	(A)
Q.No. 114	(A)
Q.No. 115	(A)
Q.No. 116	(C)
Q.No. 117	(A)
Q.No. 118	(D)
Q.No. 119	(C)
Q.No. 120	(C)
Q.No. 121	(A)
Q.No. 122	(D)
Q.No. 123	(B)
Q.No. 124	(B)
Q.No. 125	(B)
Q.No. 126	(C)
Q.No. 127	(B)
Q.No. 128	(D)
Q.No. 129	(D)
Q.No. 130	(C)
Q.No. 131	(A)
Q.No. 132	(B)
Q.No. 133	(B)
Q.No. 134	(A)
Q.No. 135	(B)
Q.No. 136	(D)
Q.No. 137	(C)
Q.No. 138	(B)
Q.No. 139	(C)
Q.No. 140	(C)
Q.No. 141	(C)
Q.No. 142	(A)
Q.No. 143	(B)
Q.No. 144	(B)
Q.No. 145	(B)
Q.No. 146	(A)
Q.No. 147	(A)
Q.No. 148	(B)

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Q.No. 149	(D)
Q.No. 150	(A)

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