

# Role of oxygen in the respiration is...



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## MODEL QUESTIONS

- True statement regarding insulin production
  - Chain A and B are synthesized simultaneously in the bacterium
  - Two chains synthesized artificially
  - Chain A and B produced from a single DNA fragment
  - Chain A and B are produced separately
- Based on stamen number the ascending order of the following plants
  - Brassica
  - Datura
  - Euphorbia
  - Pisum
  - Hibiscus
  - II, III, IV, I, V
  - III, II, I, IV, V
  - V, IV, I, II, III
  - II, IV, I, III, V
- Closely arranged parenchyma cells that are cut off by the phellogen towards outside are
  - Cork cells
  - Complementary cells
  - Medullary rays
  - Secondary cortical cells
- Plant that show contact with atmospheric air
  - Hydrilla
  - Utricularia
  - Vallisneria
  - Sagittaria
- Study the following
 

<b>List-I</b>	<b>List-II</b>
A. Nucleic acids	Heteropolymer
B. Proteins	Homopolymer
C. Starch	Homopolymer
D. Glycogen	Heteropolymer

**List - III**  
Four chemically distinct units  
20 chemically distinct units  
Single type repeated unit  
Two distinct chemical units

**The correct combinations are**

  - A & C
  - B & D
  - A & B
  - C & D
- Smallest flower bearing plant is also
  - Smallest Angiosperm
  - A free floating hydrophyte
  - Insectivorous plant
  - With cleistogamous flowers
  - I & II
  - III & IV
  - II & III
  - I & IV
- An artificial RNA is synthesized using three nucleotides Adenylic acid, Guanylic acid and Uridylic acid randomly. The number of different codons the RNA can have are
  - 27 sensible codons
  - 24 sensible and 3 non-sensible codons
  - 9 codons-all sensible
  - Only 3 codons
- Match the following.
 

<b>Modification</b>	<b>Plant</b>
A. Phyllode	I. Liliium
B. Phylloclade	II. Agave
C. Bulb	III. Opuntia
D. Bulbil	IV. Dioscoria
	V. Acacia



- |          |          |          |          |
|----------|----------|----------|----------|
| <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |
| 1) III   | V        | I        | IV       |
| 2) V     | III      | I        | II       |
| 3) III   | V        | I        | II       |
| 4) II    | III      | V        | IV       |

- Medicinal plant among the following
  - Petunia
  - Phaseolus
  - Nerium
  - Rauwolfia
- Plant with vertically growing underground stem and protogynous flowers is
  - Colocasia
  - Ginger
  - Gloriosa
  - Colchicum
- Concentric rings that appear during secondary growth of dicot plant are
  - Vascular cambium
  - Phellogen
  - Secondary xylem
  - Cortical rings
- False statement regarding embryosac development in angiosperms is
  - Three mitotic divisions result in the development of embryosac from megaspore
  - Embryosac depends on the nucellus for its development
  - Only six cells have cell walls
  - Group of three cells towards micropylar end constitutes egg apparatus.
- Match the following.
 

<b>List-I</b>	<b>List-II</b>
A. Common pancy	I. Pollen is released before stigma is receptive.
B. Sunflower	II. Compact inflorescence and well exposed stamens.
C. Sea grass	III. Anther and stigma placed at different positions.
D. Glory lily	IV. Chasmogamous and cleistogamous flowers.
	V. Pollen released inside the water

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
1) IV	I	V	III
2) IV	I	II	III
3) III	I	IV	II
4) V	II	I	IV
- A form of asexual reproduction that mimics sexual reproduction in plants is
  - Parthenocarpy
  - Fragmentation
  - Somatogamy
  - Apomixis
- Match the following.
 

<b>List-I</b>	<b>List-II</b>
A. Baculoviruses	I. Protein enriched
B. Azospirillum	II. Biocontrol agent
C. Scenedesmus	
D. Chenopodium	

- Biofertilizer
  - Vitamin C enriched
  - Algal SCP
- |          |          |          |          |
|----------|----------|----------|----------|
| <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |
| 1) II    | III      | V        | I        |
| 2) III   | II       | IV       | V        |
| 3) II    | III      | V        | IV       |
| 4) I     | IV       | II       | III      |
- Mismatch from the following
    - Asparagus ----- berry
    - Ruscus ----- cladophyll
    - Capsicum ----- unilocular
    - Pisum ----- monoadelphous
  - Cell organelle that play important role in the synthesis of Lipoproteins, Glycoproteins and Phospholipids respectively
    - Peroxisome, Glyoxysome, ER
    - Golgi, Peroxisome, ER
    - ER, Golgi, Peroxisome
    - Ribosome, ER, golgi
  - Match the following.
 

<b>Life cycle</b>	<b>Plant</b>
A. Haplontic	I. Ectocarpus
B. Haplo-diplontic	II. Spirogyra
C. Diplontic	III. Fucus
D. Diplo-biontic	IV. Funaria
	V. Polysiphonia

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
1) II	IV	V	I
2) V	III	II	IV
3) II	I	III	V
4) I	V	IV	II
  - A cross between AaBb and aabb yields
    - AaBb, aabb
    - Aabb, aaBB, AaBb
    - AaBb, Aabb, aaBb, aabb
    - AAbb, aaBB
  - Match the following.
 

<b>List-I</b>	<b>List-II</b>
A. Creutzfeldt -Jacob's disease	I. High mortality rate
B. Scrapie disease in sheep	II. Sexually transmitted disease
C. Rabies	III. Only protein cause disease
D. Oncovirus	IV. Transmitting agent is infected beef
	V. Human Papilloma Virus

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
1) IV	III	I	V
2) III	IV	I	V
3) II	III	I	V
4) I	II	IV	V
  - $\text{NO}_3 + \text{H}^+ \rightarrow \text{NO}_2$ . Bacteria responsible for this is
    - Nitrifying
    - Ammonifying
    - Reducing
    - Denitrifying
  - Phloem sap consisting of
    - Water, sucrose, minerals
    - Sucrose, amino acids, hormones, minerals
    - Water, glucose, hormones, amino acids
    - Water, sucrose, hormones, amino acids
  - Neelakuranji plant is a
    - Perennial and polycarpic
    - Annual and monocarpic
    - Biennial and monocarpic
    - Perennial and monocarpic
  - $2\text{NH}_3 + 3\text{O}_2 \rightarrow 2\text{NO}_2^- + 2\text{H}^+ + 2\text{H}_2\text{O}$
    - $2\text{NO}_2 + \text{O}_2 \rightarrow 2\text{NO}_3^-$

False statements regarding the above

- equations
- First reaction is carried out by Nitrosomonas or Nitrococcus
  - Second reaction is carried out by Nitrobacter
  - Both these reactions are called as nitrification
  - Photoautotrophs usually carry out these reactions
- In India nearly 2,00,000 different varieties in a crop plant is seen in
    - Potato
    - Sorghum
    - Paddy
    - Wheat
  - Species belonging to Trichoderma is useful
    - As a biopesticide
    - In the production of statins
    - As a biofertilizer
    - As a source of antibiotic
    - I & II
    - Only II
    - I, II & III
    - II & IV
  - Competitive inhibition among the following
    - Inhibition by malonate of succinic dehydrogenase
    - Inhibition of cholesterol formation by statins
    - Zn on carboxypeptidase
    - Ethanol on alcohol dehydrogenase
    - I & II
    - II & III
    - III & IV
    - I & IV
  - Length of the DNA with 80 purines.
    - 272 nm
    - 27.2 A<sup>0</sup>
    - 2.72 × 10<sup>-8</sup> meters
    - 544 A<sup>0</sup>
  - A piece of a DNA to be propagated during recombinant DNA procedure utilizes
    - Its own ori for replication
    - Host's ori for replication
    - Vector's ori for its replication
    - Its own ori for replication of vector
  - For the synthesis of sugars in C<sub>4</sub> plants, CO<sub>2</sub> is provided by
    - Malic acid
    - HCO<sub>3</sub><sup>-</sup>
    - Atmosphere
    - Pyruvic acid
  - According to Mendel which of the following is not true of the factors.
    - Factors are stable entities
    - Factors do not blend or mix
    - Factors are contributed by only one parent
    - Factors exist in alternative forms
  - Role of oxygen in the respiration is
    - It oxidizes respiratory substrate like Glucose
    - It is used in the oxidation of intermediates
    - It is the final hydrogen acceptor
    - It is used in the anabolic process
  - Skoog, for the callus development, in addition to auxins, the nutrient medium is supplemented with
    - Cytokinins
    - Buffers
    - Antibiotics
    - Coconut milk

## KEY

- |       |       |       |       |       |
|-------|-------|-------|-------|-------|
| 1) 4  | 2) 2  | 3) 2  | 4) 4  | 5) 1  |
| 6) 1  | 7) 2  | 8) 2  | 9) 4  | 10) 4 |
| 11) 3 | 12) 3 | 13) 1 | 14) 4 | 15) 3 |
| 16) 4 | 17) 3 | 18) 3 | 19) 3 | 20) 1 |
| 21) 4 | 22) 4 | 23) 4 | 24) 4 | 25) 3 |
| 26) 1 | 27) 1 | 28) 3 | 29) 3 | 30) 1 |
| 31) 3 | 32) 3 | 33) 4 |       |       |