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**2008**

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## Section: A

### Question: 1 \*\*

[1]

Placing a ripe apple in a bag of green bananas will cause them to ripen quickly. This occurs because the apple

- a. absorbs cytokinin
- b. forms digestive enzymes
- c. lacks auxin
- d. produces ethylene

**Answer:**

### Question: 2

[1]

Which of these is not of the inflammatory response?

- a. Antibodies
- b. Swelling
- c. Redness
- d. Producers of histamine

**Answer:**

### Question: 3 \*\*

Which disease is associated with the following symptoms: Sudden onset of profuse watery stools, followed by vomiting, rapid dehydration and muscular cramps?

[1]

### Question: 4 \*\*

Who finally disapproved the theory of spontaneous generation?

[1]

### Question: 5 \*\*

[1]

A woman is a sickle cell carrier. What is true of the inheritance of this genetic disorder in these women?

- a. It is a sex linked trait.
- b. Her mother could be normal and her father could be a carrier.
- c. Both the parents should be suffering from the sickle cell anemia.
- d. Both the parents could be normal (neither sufferer nor carrier)

### Question: 6 \*\*

[1]

Muscular rigidity, lock jaw and painful spasm are main symptoms of

- a. Tuberculosis
- b. Cholera
- c. Tetanus
- d. Chicken pox

### Question: 7 \*\*

[1]

The tetraploid ancestor of the modern wheat is



- 
- a. Triticum monococcum
  - b. Triticum durum
  - c. Triticum speltoides
  - d. Agilops squarrosa

**Question: 8**

[1]

Give the full form of SCID.

**Answer:**

Severe Combined Immuno Deficiency

**Section: B**

**Question: 9**      \*\*

Mention two salient features of immunity theory of ageing.

[2]

**Question: 10**      \*\*

Write the full form of ESR. What does the rise in ESR indicate?

[2]

**Question: 11**      \*\*

Why do the sons of a hemophiliac father never suffer from this trait?

[2]

**Question: 12**      \*\*

Why is the cleavage in mammals referred as simple holoblastic?

[2]

**Question: 13**      \*\*

How does a sickle cell carrier have an advantage over the rest of the human population in amalaria ridden area?

[2]

**Question: 14**      \*\*

Why is organ transplantation from another person generally unsuccessful? How is this now overcome?

[2]

**Question: 15**      \*\*

Rh<sup>-</sup> negative mother has delivered on Rh<sup>+</sup> positive baby. Why should she delay the second pregnancy? Explain.

[2]

**Question: 16**      \*\*

Expand MRI. Give its two uses.

[2]

**Question: 17**      \*\*

How it is that human male never passes the hemophilia to his son?

[2]



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**Question: 18**

[2]

Define biofertilisers.

**Answer:**

These are micro – organisms which bring about nutrient enrichment of soil by enhancing the availability of nutrients, as Nitrogen & Phosphorous to crops.

OR

The immune system of a person is not making between the molecules of “self” and ‘non self’. How will this situation affect his body? Name any one pathological disorder which results to this situation. What happens to nerve cells in multiple sclerosis?

**Section: C**

**Question: 19**

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What is the cytological basis of Down’s syndrome? Give two physical symptoms of this disorder. Explain why the children born to younger women seldom show this abnormality. [3]

**Question: 20**

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Name the disorder in which the immune mechanism of the body of a patient gets suppressed. Which pathogen is responsible for it? Give any two methods of its transmission. [3]

**Question: 21**

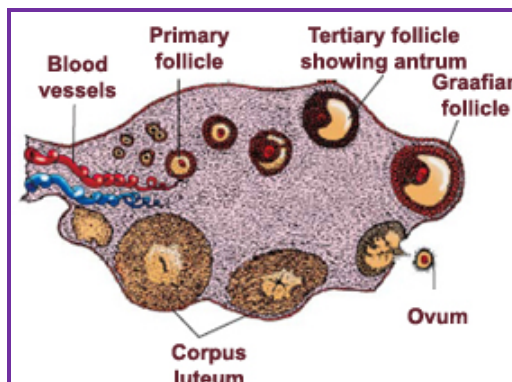
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If a certain plant when introduced in to new environment neither produces seeds nor does it respond to vegetative reproduction (propagation). How can more plants are produced of its kinds from this plant. State the method. [3]

**Question: 22**

Draw a labeled diagram of a human ovum just released by the mature Graafian follicle. [3]

**Answer:**



**Question: 23**

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[3]

Explain the scientific reason for growing a leguminous crop like groundnut prior to a cereal crop.



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**Question: 24** \*\*

What for is amniocentesis performed? Explain the procedure. [3]

**Question:25** \*\*

What are LDL and HDL? Which one of them is harmful and how? [3]

**Question: 26** \*\*

Expand MRI. How is this technique superior to CT scan? [3]

OR

In what way the life span of a differentiated normal cell is different from the life span of cancer cell? Mention four different categories of cancer. [3]

**Question: 27** \*\*

In which organ are Leydig cells and Sertoli cells located? Differentiate between these cells with reference to their located in the organ and their functions. [3]

**Section: D**

**Question: 28** \*\* [5]

A man with blue eyes and black hair (Homozygous for both characters) married women with black eyes and red hair blue eyes over red hair (h). Work out the probabilities of phenotypes of children of the couple using punnett square method (use only the symbols for characters as given above).

OR

Define drug addiction. Give sources and harmful effects of any four drugs derived from different plant sources.

**Answer:**

See topics on 'Drugs'.

**Question: 29** [5]

Describe Miller's experiments to explain the origin of life.

**Answer:**

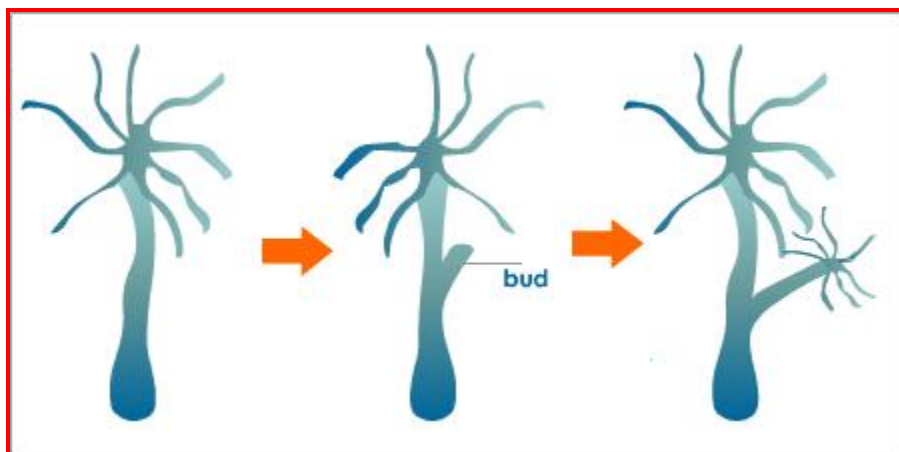
See topics on 'Stanley Miller's Experiment'

OR

a. Show by a series of diagrams the manner of regeneration in Hydra.

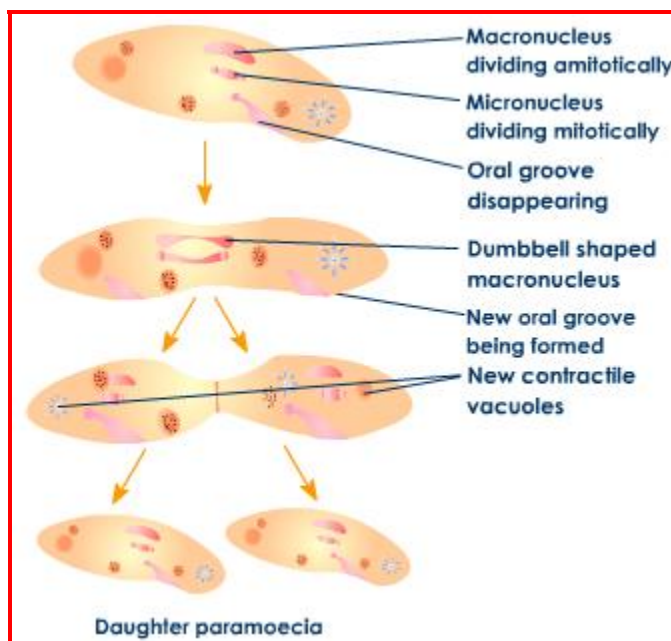


**Answer:**



b. Show by series of diagrams the manner of transverse binary fission.

**Answer:**



**Question: 30**

[5]

How does skin act as a chemical barrier against chemical barrier? \*\*

OR

Describe the formation and function of corpus leuteum in human female.

**Answer:**

See topics on 'Structure of Graafian Follicle'.

**\*\* Out of syllabus. Answer will be provided up on request**

