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Previous Year Paper

Biology - 2014



Match The Following

1. Match the items given in Column A with the most appropriate ones in Column B and rewrite the correct matching pairs from Column A and Column B:

A. Pituitary gland	(i) Testosterone
B. Sulphur dioxide	(ii) Calcium
C. Seminiferous tubules	(iii) Growth hormone
D. Seminiferous tubules	(iv) Acid rain
E. Guttation	(v) Sperms

Answer



Fill In the Blanks

2. Copy and complete the following by filling in the blanks 1 to 5 with appropriate words.

The human female gonads are ovaries. A maturing egg in the ovary is present in a sac of cells called(1) As the eggs grow larger, the follicle enlarges and gets filled with a fluid and is now called the (2) follicle. The process of releasing the egg from the ovary is called (3) The ovum is picked up by the oviducal funnel and fertilisation takes place in the (4) In about a week the blastocyst gets fixed in the endometrium of the uterus and this process is called(5)

Answer



One Word Answers

3. Name the following :

The process of conversion of ADP into ATP during photosynthesis.

Answer

4. Name the following

The part of the brain associated with memory.

Answer

5. Name the following

ii. The ear ossicle which is attached to the tympanum

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6. Name the disease for which the following types of vaccines are given :

(1) Study Assignments, Solved Previous Year Papers . Questions and Answers. Free Forever.
Salk's vaccine.

(2) B.C.G

Answer

7. Name the following:

The type of gene which is not expressed in the presence of a contrasting allele.

Answer

8. Name the following

The hormone secreted by islets of Langerhans.

Answer

9. Give one example of each of the following:

i. A water pollutant

Answer

10. Give one example of each of the following:

An aquatic plant used in the laboratory to demonstrate O_2 liberation during Photosynthesis

Answer

11. Give one example of each of the following:

(3) An antibiotic

Answer

12. Give one example of each of the following:

(4) A nitrogenous base in DNA

Answer

13. Give technical terms for the following:

(i) A method of contraception in which the sperm duct is cut and ligated

Answer

14. Give technical terms for the following:

(ii) Statistical study of human population

Answer

15. Give technical terms for the following:

(iii) The protective covering of the heart

Answer

16. Give technical terms for the following:

(iv) A sudden heritable change in the gene

Answer

17. Give technical terms for the following:

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Answer

18. Give technical terms for the following:

(vi) The fluid portion of blood

Answer

19. Give technical terms for the following:

(vii) The nerve which transmits impulses from the ear to the brain

Answer

20. Give technical terms for the following:

(viii) Group of hormones which influence other endocrine glands to produce hormones

Answer

21. Give technical terms for the following:

(ix) Thin walled sac of skin which covers the testes

Answer

22. Give technical terms for the following:

(x) The permanent stoppage of the menstrual cycle in a woman aged 50 years

Answer



Multiple Choice Questions

23. Chose the correct answer from the options given below:

After mitotic cell division , a female human cell will have:

- A. 44 + xx Chromosome
- B. 44 + xy chromosomes
- C. 22 + x chromosome
- D. 22 + x chromosome

Answer

24. Choose the correct answer from the options given below:

(iv) The antibiotic penicillin is obtained from:

- A. Protozoan
- B. Bacteria
- C. Virus
- D. Virus

Answer

25. Choose the correct answer from the options given below:

(i) Cretinism and Myxoedema are due to

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- A. Hyposecretion of thyroxine
B. Hypersecretion of growth hormone
C. Hyposecretion of thyroxine

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- D. Hyposecretion of thyroxine

Answer

26. Choose the correct answer from the options given below:

Which of the following is not a natural reflex action?

- A. Knee-jerk
B. Blinking of eyes due to strong light
C. Salivation at the sight of food
D. Salivation at the sight of food

Answer

27. Choose the correct answer from the options given below:

The site of maturation of human sperms is the

- A. Seminiferous tubule
B. Interstitial cells
C. Epididymis
D. Epididymis

Answer



Short Answer Type

28. Differentiate between the following pairs on the basis of what is mentioned within brackets:

Turgor pressure and wall pressure (Explain)

Answer

29. a. Differentiate between the following pairs on the basis of what is mentioned within brackets:

Turgor pressure and wall pressure (Explain)

Answer

30. State the main function of the following:

ii. Eustachian tube. Answer

31. State the main function of the following:

Sperm duct.

Answer

32. Write any two major reasons for the population explosion in India.

Answer

33. Differentiate between the following pair on the basis of what is mentioned within bracket :

Disinfectant and Antiseptic (Definition)

Answer

34. Briefly explain the following term.
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Answer

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35. Categorize the following activities as per the functions of the Red Cross Society and the WHO.

- (1) To suggest quarantine measures to prevent spread of disease.
- (2) Humanitarian services to victims of war
- (3) To educate people in accident prevention
- (4) To promote projects for research on disease.

Answer

36. State the main function of the following:

Eustachian tube

Answer

37. State the main function of the following:

Suspensory ligament of the eye

Answer

38. State the main function of the following:

Lenticels

Answer

39. Given below are six sets with four terms each. In each set one term is odd and cannot be grouped in the same category to which the other three belong. Identify the odd one in each set and name the category to which the remaining three belong. The first one has been done as an example.

Example: Calyx, Corolla, Stamens, Midrib

Odd term: midrib

i. Haemoglobin, Glucagon, Iodopsin, Rhodopsin

Category: Parts of a flower

Answer

40. Given below are six sets with four terms each. In each set one term is odd and cannot be grouped in the same category to which the other three belong. Identify the odd one in each set and name the category to which the remaining three belong. The first one has been done as an example.

Example: Calyx, Corolla, Stamens, Midrib

Odd term: midrib

Category: Parts of a flower

(ii) Urethra, Uterus, Urinary bladder, Ureter

Answer

41. Given below are six sets with four terms each. In each set one term is odd and cannot be grouped in the same category to which the other three belong. Identify the odd one in each set and name the category to which the remaining three belong. The first one has been done as an example.

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Odd term: midrib

Category: Parts of a flower

(iii) Transpiration, Photosynthesis, Phagocytosis, Guttation

[Answer](#)

42. Given below are six sets with four terms each. In each set one term is odd and cannot be grouped in the same category to which the other three belong. Identify the odd one in each set and name the category to which the remaining three belong. The first one has been done as an example.

Example: Calyx, Corolla, Stamens, Midrib

Odd term: midrib

Category: Parts of a flower

(iv) Cyton, Photon, Axon, Dendron

[Answer](#)

43. Given below are six sets with four terms each. In each set one term is odd and cannot be grouped in the same category to which the other three belong. Identify the odd one in each set and name the category to which the remaining three belong. The first one has been done as an example.

Example: Calyx, Corolla, Stamens, Midrib

Odd term: midrib

Category: Parts of a flower

(v) Oxytocin, Insulin, Prolactin, Progesterone

[Answer](#)

44. State the exact location of the following:

Tricuspid valve

[Answer](#)

45. State the exact location of the following:

Amnion

[Answer](#)

46. State the exact location of the following:

Yellow spot

[Answer](#)

47. State the exact location of the following:

(iv) Seminal vesicle

[Answer](#)

48. State the exact location of the following:

Adrenal gland

[Answer](#)

49. Differentiate between the following pairs on the basis of what is mentioned within brackets.

[Answer](#)

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50. Differentiate between the following pairs on the basis of what is mentioned within brackets:

Near vision and Distant vision (shape of the eye lens)

[Answer](#)

51. Differentiate between the following pairs on the basis of what is mentioned within brackets:

Corpus callosum and Corpus luteum (function)

[Answer](#)

52. Give specific reasons for the following statements:

Use of CFC is banned in many countries.

[Answer](#)

53. Give specific reasons for the following statements:

We cannot distinguish colours in moonlight.

[Answer](#)

54. Give specific reasons for the following statements:

Balsam plants wilt during mid-day even if the soil is well watered.

[Answer](#)

55. Give specific reasons for the following statements:

Carbon monoxide is highly dangerous when inhaled.

[Answer](#)

56. Give specific reasons for the following statements:

A person walks clumsily after consuming alcohol.

[Answer](#)

57. Expand the following biological abbreviations:

(1) ATP

[Answer](#)

58. Expand the following biological abbreviations:

(2) TSH

[Answer](#)

59. Expand the following biological abbreviations:

(3) DPT

[Answer](#)

60. Expand the following biological abbreviations:

(4) DNA

[Answer](#)

61. Briefly explain the following terms.

(i) Monohybrid cross [Answer](#)

62. Briefly explain the following terms.

(iii) Biomedical waste [Answer](#)

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Answer

64. Briefly explain the following terms.

(v) Hormones

Answer

65. State any two harmful effects of noise pollution on human health.

Answer

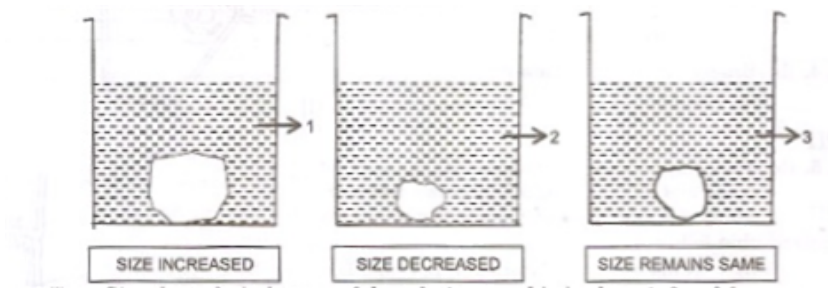
66. State Mendel's Law of segregation.

Answer



Long Answer Type

67. A candidate in order to study the process of osmosis has taken 3 potato cubes and put them in 3 different beakers containing 3 different solutions. After 24 hours, in the first beaker the potato cube increased in size, in the second beaker the potato cube decreased in size and in the third beaker there was no change in the size of the potato cube. The following diagram shows the result of the same experiment:



- Give the technical terms of the solution used in beaker 1 2 and 3
- In beaker 3 the size of the potato cube remains the same. Explain the reason in brief
- Write the specific feature of the cell sap of root hair a which helps in absorption of water.
- What is osmosis?
- How does a cell wall and a cell membrane differ in their permeability?

Answer

68. A candidate in order to study the process of osmosis has taken 3 potato cubes and put them in 3 different beakers containing 3 different solutions. After 24 hours, in the first beaker the potato cube increased in size, in the second beaker the potato cube decreased in size and in the third beaker there was no change in the size of the potato cube. The following diagram shows the result of the same experiment:

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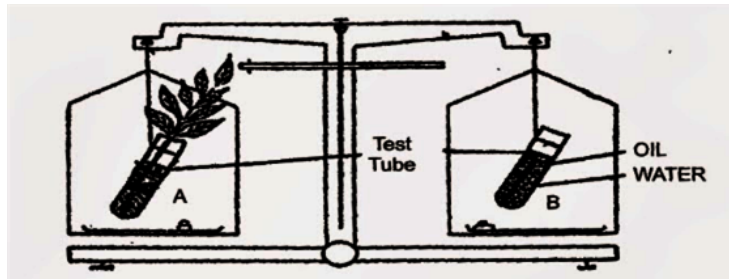
iii. Write the specific feature of the cell sap of root hair a which helps in absorption of water.
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v. How does a cell wall and a cell membrane differ in their permeability?

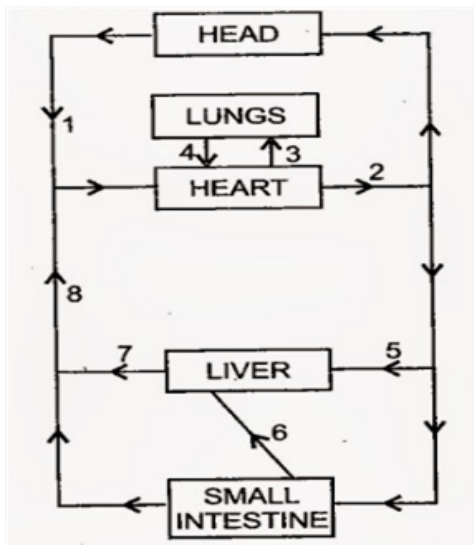
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Answer

69. The figure given below represents an experimental setup with a weighing machine to demonstrate a particular process in plants. The experimental setup was placed in bright sunlight. Study the diagram and answer the following questions:



- Name the process intended for study.
 - Define the above mentioned process.
 - When the weight of the test tube (A & B) is taken before and after the experiment, what is observed? Give reasons to justify your observation in A & B.
 - What is the purpose of keeping the test tube Bin the experimental setup? [Answer](#)
70. The diagram below represents the simplified pathway of the circulation of blood.



Study the same and answer the questions which follow:

- Name the blood vessels labelled 1 and 2.
- State the function of blood vessels labelled 5 and 8.
- What is the importance of the blood vessel labelled 6?
- Which blood vessel will contain a high amount of glucose and amino acids after a meal?
- Draw a diagram of the different blood cells as seen in a smear of human blood.

Answer

71. A potted plant was taken in order to prove a factor necessary for photosynthesis. The potted plant was kept in the dark for 24 hours. One of the leaves was covered with black paper in the centre. The potted plant was then placed in sunlight for a few hours.

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- (i) What part of photosynthesis was being tested?
 (ii) Why was the plant placed in the dark before beginning the experiment?
 (iii) Study Assignments, Solved Previous Year Papers . Questions and Answers. Free Forever.

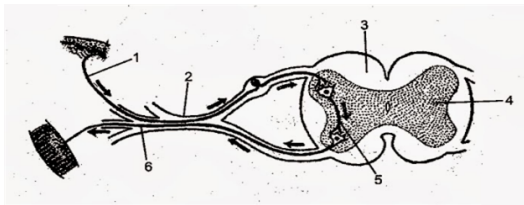
(1) boiled in water

(2) boiled in methylated spirit

(iv) Write a balanced chemical equation to represent the process of photosynthesis.

(v) Draw a neat diagram of a chloroplast and label its parts. [Answer](#)

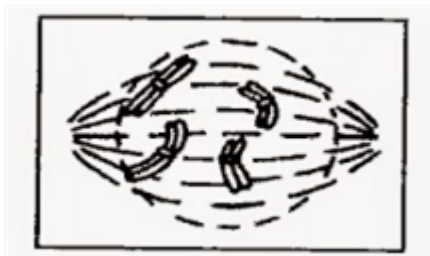
72. The diagram given below is a representation of a certain phenomenon pertaining to the nervous system. Study the diagram and answer the following questions:



- (i) Name the phenomenon which is being depicted.
 (ii) Give the technical term for the point of contact between the two nerve cells.
 (iii) Name the parts 1, 2, 3 and 4.
 (iv) Write the functions of parts 5 and 6.
 (v) How does the arrangement of neurons in the spinal cord differ from that of the brain?

[Answer](#)

73. Given below is a diagram representing a stage during mitotic cell division.

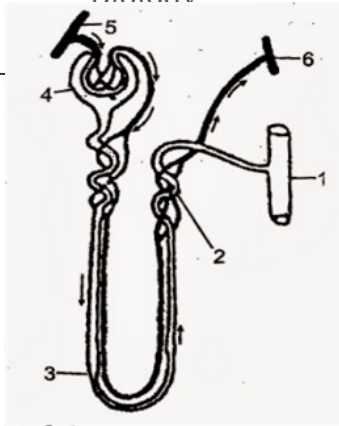


Study it carefully and answer the questions which follow:

- (i) Is it a plant cell or an animal cell? Give a reason to support your answer.
 (ii) Identify the stage shown.
 (iii) Name the stage which follows the one shown here. How is that stage identified?
 (iv) How will you differentiate between mitosis and meiosis on the basis of the chromosome number in the daughter cells?
 (v) Draw a duplicated chromosome and label its parts.

[Answer](#)

74. The given diagram represents a nephron and its blood supply. Study the diagram and answer the following questions:



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- Label parts 1, 2, 3 and 4.
- State the reason for the high hydrostatic pressure in the glomerulus.
- Name the blood vessel which contains the least amount of urea in this diagram.
- Name the two main stages of urine formation.
- Name the part of the nephron which lies in the renal medulla.

[Answer](#)