

SUMMATIVE ASSESSMENT – I (2017-18)
GENERAL SCIENCE – PAPER-II
BIOLOGICAL SCIENCE
(English Medium)

Class : IX
Max. Marks : 40

No. of Questions: 80
Time : 2.45 Hrs.

INSTRUCTIONS

1. The question paper is given as Booklet.
2. All the questions are multiple choice questions.
3. Use blue / black ink ball point pen to answer all the questions in OMR sheet.
4. Identify the correct answer and bubble relevant circle given against the question number in OMR sheet.

Ex : If the answer is 3 to the question bubble as shown ① ② ● ④

5. The answer paper will not be valued if ✓, X symbols are used as answers.
 6. The answer paper is not valued for over writing and bubbling more answers than one.
 7. Answer all the questions in the given time and hand over the OMR sheet to the invigilator.
-

1. Thilak prepared a table with the following headings. With the help of this table what can be observed?

Choose the right answer from the following :

S. No.	Name of the plant	Leaf venation	No. of cotyledons / seed leaves	Tap root system or fibrous root system
1.	Maize			
2.	Paddy			
3.	Grass			
4.	Beans			

- (1) Differences in tissues.
 (2) Difference of plants and animals.
 (3) Different characters in monocot and dicot plants.
 (4) Difference of flora and fauna.
2. Observe the flow chart, choose the correct answer.
- (a) It shows hierarchy of the classification.
 (b) It helps to know the five kingdom classification.



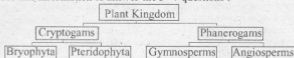
- (1) Both (a), (b) are incorrect.
 (2) Both (a), (b) are correct.
 (3) (a) is true, (b) is false.
 (4) (a) is false, (b) is true.

Use this information to answer the 3-4 questions :

There are several types of behaviours in humans and animals which are investigated by researchers. They are instinct, imprinting, conditioning, imitation etc. Ivan Pavlov conducted experiments on dogs and proposed "Conditioning Theory".

3. Select the incorrect sentence about conditioning :
- (a) It involves a response to a stimulus. (b) It is not a type of learned behaviour.
 (c) It was discovered by Ivan Pavlov. (d) Pavlov used Dog in his experiment.
- (1) (a), (b), (c) only (2) (b) only
 (3) (b), (c) only (4) All are correct.
4. Choose correct answer about Imitation in the following :
- (a) Where one animal copies another animal.
 (b) Humans are the only animals that copy each other.
- (1) Both (a), (b) are false. (2) Both (a), (b) are true.
 (3) (a) is true, (b) is false. (4) (a) is false, (b) is true.

Use this information to answer the 5 - 7 questions :



- Plant kingdom is divided into Cryptogams, Phanerogams on the basis of
 - seed in a fruit
 - true roots and leaves
 - false roots and leaves
 - flowering/non-flowering
- Angiosperms are divided into
 - Mosses, fern
 - Monocots, dicots
 - Gymnosperms, dicots
 - Angiosperms, monocot
- The following plants are classified based on seed coat :
 - Gymnosperms - Angiosperms
 - Bryophyta - Pteridophyta
 - Gymnosperms - Bryophyta
 - Angiosperms - Pteridophyta
- Identify the part labelled 'X'.



- Phloem
 - Sieve tube
 - Sieve plate
 - Companion cell
- Which of the following statements is not true about the given figure ?



- P helps nerve impulse, Q helps protein synthesis.
 - P and Q have a nucleus.
 - P and Q are cell Organelles.
 - P is nerve cell, Q is plant cell.
- Which labelled cell is found in the Muscular system ?

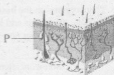


- only S
- only P
- only R
- only Q

11. Anitha labelled Nose internal structure as shown below.
Nose – Olfactory receptors – Nasal septum – Epiglottis – Mucous membrane
Which of the following is incorrect ?

- (1) Mucous membrane (2) Epiglottis
(3) Olfactory receptors (4) Nasal septum

12. What is the function of the part labelled "P" in the given figure ?



- (1) Protect the epidermis (2) Sensation of touch
(3) Produce Sweat (4) Secretion of sebum
13. The diagrams given below are the organelles of a cell.
Which of the following organelles is responsible for mechanical support and enzyme transport ?



14. A student labelled the parts as shown in the picture. Choose the correct match.



1. Fungiform papillae
2. Foliate papillae
3. Vallate papillae

- (1) a - 1, b - 3, c - 2
(3) a - 3, b - 2, c - 1

- (2) a - 1, b - 2, c - 3
(4) a - 2, b - 3, c - 1

15. Teacher asked to the students to draw the recycling diagram the following pictures are drawn by the students. Choose the correct one.

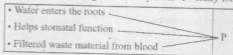


16. Which of the following is the best method to control plant diseases ?

- (1) Biological control.
(2) The selection of disease resistant varieties.
(3) The introduction of disease resistant varieties.
(4) The breeding of permanent resistant varieties.

17. Read the following :
 Infants have heightened taste sensitivity that is why babies try to sense everything by taste.
 Choose the correct statement in the following :
- (a) The supersensitivity however decreases with age.
 (b) Many elderly people complain that food has lost its taste.
- (1) Both (a), (b) are incorrect. (2) Both (a), (b) are correct.
 (3) (a) is true, (b) is false. (4) (a) is false, (b) is true.
18. We feel more thirsty if we drink cool drink in summer because
- (1) All of these
 (2) the concentration of cytoplasm is more than the concentration of cool drink.
 (3) the concentration of cytoplasm is less than the concentration of cool drink.
 (4) the concentration in both are equal.
19. **Assertion (A)** : Use steel plates instead of plastic plates.
Reason (R) : Plastic needs long period to decompose.
- (1) Both (A), (R) are incorrect.
 (2) Both (A), (R) are correct, (R) explains (A).
 (3) Both (A), (R) are correct (R) does not explain (A).
 (4) (A) is correct, (R) is incorrect.
20. Your Headmaster asked to suggest least energy consuming bulb in the following to your science lab. Choose the correct one.
- (1) LED (2) Incandescent bulb
 (3) Tube light (4) CFL

21. Observe the following and identify what "P" study for.



- (1) Diffusion only (2) Diffusion, filtration
 (3) Filtration, osmosis (4) Osmosis only
22. Your Science Teacher is preparing placards to conduct a rally on conservation of water. You can add suitable slogans from the following :
- (a) SAVE EVERY DROP OF WATER
 (b) WATER IS OUR BLOOD
 (c) Rain... Rain ... go away
 (d) SAVE WATER - SAVE FUTURE
- (1) (a), (d), (c) (2) (a), (b)
 (3) (a), (c) (4) (a), (b), (c)
23. Identify the medicinal plants in the following which were used as antiseptic :



- (1) c (2) a, b
 (3) b, c (4) a

24. Which of the following is NOT the function of a vacuole ?
 (1) Locomotion (2) Storage
 (3) Providing rigidity to the cell (4) Waste excretion
25. Which of the cells is similar to the cell shown below ?



- (1) A Mature RBC (2) A Sperm
 (3) A Cheek cell (4) A Nerve cell
26. Red Blood cells : Erythrocytes :: White Blood cells : [?]
 (1) Leucocytes (2) Monocytes
 (3) Thrombocytes (4) Erythrocytes
27. The lens divides the inner eyeball as (i) chamber and (ii) chamber :
 (1) i - aqueous, ii - cochlear (2) i - vitreous, ii - vestibule
 (3) i - cochlear, ii - aqueous (4) i - aqueous, ii - vitreous

28. Will you consider spinning of web by spider as an instinctual behaviour.
 Find the Correct sentence in the following :

- (a) The behaviour that need not be learned.
 (b) Reflexes are also a type of instinct behaviour.
 (c) Young ones follow of their mother is instinct behaviour.
- (1) (b) only (2) (a), (b) only
 (3) (c) only (4) (a), (c) only

29. (i) All living organisms are composed of cells and products of cells.
 (ii) All cells arise from Pre-existing cells.

Which theory explain the above statements ?

- (1) Origin of organs theory (2) Tissue culture theory
 (3) Cell theory (4) Permeable membrane theory

30. Identify the cell organelle that helps in respiration :

- (1)  (2) 
- (3)  (4) 

31. Read the following :

Cortex is the major part of the stem represented by several layers of loosely arranged parenchyma tissue.

What is the significant fact about cortex in plants ?

- (1) Ground tissue (2) A protective tissue
 (3) Embryological tissue (4) A storage tissue

32. Identify the wrongly matched one :
- (a) Lysosomes – Suicidal bags
 (b) Mitochondria – Power house of the cell
 (c) Vacuole – Lipid sacs
 (d) Ribosomes – Food factories
- (1) (c), (d) (2) (a), (b)
 (3) (b), (c) (4) (a), (d)
33. In 1898 Camillo Golgi used compound microscope to observe the golgi complex. Which type of microscope is used to observe cristae in mitochondria ?
- (1) Florescence microscope (2) Simple microscope
 (3) Electron microscope (4) Compound microscope
34. There are four basic types of tissues in the plants. Meristems help the overall growth. Which tissue is responsible for increase in the length of the plant ?
- (1) Epidermis (2) Apical meristem
 (3) Lateral meristem (4) Inter calary meristem
35. A nail is inserted in the trunk of a tree at a height of 1 metre from the ground level. After 3 years the nail will
- (1) move sideways (2) move downwards
 (3) move upwards (4) remain at the same position
36. Which of the following tissues provides mechanical support and elasticity to plant parts ?



P



Q



R

- (1) (P) and (Q) (2) P
 (3) Q (4) R
37. Which of the following statements is NOT true about sponges ?
- (1) Their body is made up of two layers.
 (2) They have the water vascular system.
 (3) They have numerous micropores on their body.
 (4) They have a cavity in the body.
38. Plants and animals are classified in a systematic way to study. Identify the correct sequence in the classification of living things.
- (1) Phylum, kingdom, class, family, order, genus and species
 (2) Kingdom, phylum, class, order, family, species and genus
 (3) Kingdom, phylum, class, order, family, genus and species
 (4) Kingdom, phylum, class, family, order, species and genus
39. Which of these is the largest living invertebrate phylum ?
- (1) Echinodermata (2) Arthropoda
 (3) Annelida (4) Mollusca

40. The bones in the middle ear serve to amplify sound wave action from the tympanic membrane and transmit to

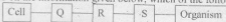


- (1) the semicircular canals
(2) the oval window
(3) the round window
(4) the eustachian tube
41. **Situation - (i)** : Recognise the taste by just keeping the food on tongue.
Situation - (ii) : Recognise the taste by just pressing the food against palate.
Which situation makes you recognise the taste ?
- (1) Applicable only for solid substances. (2) (i) only
(3) (ii) only (4) (i) and (ii)
42. Which cells help to identify the colours in eyes ?
- (1) Melanocytes (2) Rods, Cones
(3) Rods only (4) Cones only
43. Bombardier beetle emits spray with foul smell. It helps
- (1) to catch the prey (2) to get food easily
(3) to protect from predator (4) to attract female beetle
44. Identify the neuron with axon and more dendrites.







45. Which of the following cellular components of the blood is responsible for the production of antibodies ?
- (1) Erythrocytes (2) Thrombocytes
(3) Lymphocytes (4) Monocytes
46. Which of the following statements is true about tissue ?
- (1) Cells with different structures but the same function.
(2) Cells with similar structures but have different functions.
(3) A diverse group of cells that perform no functions.
(4) Cells with similar structures and functions.

47. Based on the information given below, which of the following represents Q, R and S ?



	Q	R	S
(1)	Tissue	Cell	System
(2)	System	Organ	Cell
(3)	Organ	Tissue	Cell
(4)	Tissue	Organ	System

48. Which of the following pairs of organisms and their characteristic features is wrongly paired ?

- (1)  - Protozoa, Invertebrata, Cilia
- (2)  - Annelida, Invertebrata, Setae
- (3)  - Arthropoda, Invertebrata, Jointed legs
- (4)  - Mollusca, Vertebrata, Muscular foot

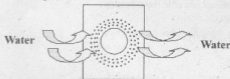
49. The movement of molecules from an area of high concentration to an area of lower concentration is known as

- (a) osmosis (b) diffusion
 (c) active transport (d) phagocytosis
- (1) (d) only (2) (a), (b) only
 (3) (b) only (4) (a), (d) only

50. A cell placed in hypotonic solution it bursts up. It is

- (1) plant cell (2) animal cell
 (3) bacterial cell (4) fungal cell

51. Observe the diagram and find the correct statement :



- (a) Water molecules leave the cell - Exosmosis
 (b) Water molecules enter the cell - Endosmosis
 (c) Water molecules leave the cell - Endosmosis
 (d) Water molecules enter the cell - Exosmosis
- (1) (c), (d) only (2) (a), (b) only
 (3) (a) only (4) (b) only

52. Observe the a, b statements :
- (a) The flexibility of the membrane to engulf food.
 (b) Amoeba acquires its food by this process only.
- (1) Both (a), (b) are incorrect. (2) Both (a), (b) correct
 (3) (a) correct, (b) incorrect (4) (a) incorrect, (b) correct

53. Assertion (A) : Human behaviour is affected by many variables.
 Reason (R) : It can be very easy to study in the laboratory.
- (1) Both (A) and (R) are false.
 (2) Both (A), (R) are true. (R) is correct explanation for (A).
 (3) Both (A), (R) are true, but (R) is not a correct explanation for (A).
 (4) (A) is true but (R) is false.

54. Find the incorrect statements about animal behaviour.
- (a) Our pet dog barks only on strangers.
 (b) Cockroaches come out of their places only when it is dark.
 (c) Birds collect soft and strong materials for nesting.
 (d) Ants which usually go in a line to reach sugar kept in tin.
- (1) All are wrong. (2) (a), (b) only
 (3) (c), (d) only (4) All are correct

55. Let us observe following information. Identify correct matching.

List-I

List-II

- | | |
|----------------------|--------------------------|
| (1) Lung alveoli | (a) Squamous epithelium |
| (2) Lining of organs | (b) Cuboidal epithelium |
| (3) Gland | (c) Columnar epithelium |
| (4) Secretions | (d) Glandular epithelium |
- (1) 1-d, 2-c, 3-b, 4-a (2) 1-a, 2-b, 3-c, 4-d
 (3) 1-a, 2-b, 3-d, 4-c (4) 1-b, 2-a, 3-d, 4-c

56. Raju rinsed his mouth with high concentrated salt water. What happens to his tongue ?
- (a) Learns to taste salty thing better.
 (b) Able to taste less salty things just after the exposure.
 (c) Hates tasting salty things.
 (d) Fails to take a less salty thing just after the exposure.
- (1) (d) only (2) (a) only
 (3) (b) only (4) (c) only

57. If mucous membrane is lost in the nasal cavity, what would be the consequences ?
- (a) Nasal cavity can't hold dust-germs. (b) Nasal cavity can't remove dust.
 (c) Nasal cavity fail to allow air. (d) Nasal cavity allow more air.
- (1) (d) only (2) (a), (b) only
 (3) (a) only (4) (a), (c) only

58. Lakshmi wants to know about the behaviour of animal shown in the below picture. Suggest some questions to her that she can use to ask an expert.



- (a) What is animal behaviour ?
(b) What type of behaviour does the animal show ?
(c) Why do the ducklings follow the hen ?
(d) What are the uses of imprinting ?
(e) Is Imitation a learned behaviour ?
- (1) (e) only
(2) (a), (b), (c)
(3) (c), (d), (e)
(4) (a), (b), (c), (d)

59. If connective tissue is damaged in our body, what would be the consequences ?

- (a) Tissues binding capacity decreases.
(b) Tissues supporting capacity will disappear.
(c) Tissues rigidity increases.
(d) The body defence, body repair increases.
(e) The transport material from one tissue to another increases.
- (1) (a), (c), (e) only
(2) (a), (b), (c) only
(3) (b), (c), (d) only
(4) (c), (d), (e) only

60. Observe the following questions. Based on the statements, what do we know about the organelle shown in the figure ?

- (a) What is the shape of the organelle ?
(b) Does this help respiration ?
(c) Why is it called power house of the cell ?
(d) Is this organelle found in both plant and animal cells ?



61. What will happen if variations do not occur in organisms ?

- (a) All organisms look like the same. (b) All organisms will die.
(c) Survival of fittest does not take place. (d) There is no beauty in the nature.
(e) Adaptation of animals towards environment does not take place.
- (1) Only (e) is correct. (2) Only (a), (b), (c) correct.
(3) Only (b), (c), (d) correct. (4) All are correct.

62. Select the suitable questions in the following to conduct a quiz on eye diseases in your school.
- What is meant by xerophthalmia ?
 - What are the differences between myopia and Hypermetropia ?
 - Name the vitamin which helps the eye.
 - Why some people have eye defects by birth ?
 - Is colour-blindness hereditary disease ?
- Only (a), (d), (e) correct.
 - Only (a), (b), (c) correct.
 - Only (c), (d), (e) correct.
 - All are correct.
63. What will happen if plasma membrane doesn't show permeability ?
- Absence of mechanical barrier property to protect the cell.
 - It allows all particles into the body.
 - It exits in all particles throughout the body.
- (a), (c) only
 - (a), (b), (c) only
 - (c) only
 - (b), (c) only
64. The following are used for observing chloroplast in your lab :
- Rheoleaf
 - Slide
 - Microscope
 - Hydrochloric acid
- (b), (c), (d) only
 - (a), (d) only
 - (b), (c) only
 - (a), (b), (c) only
65. You are doing experiments on diffusion in your lab. Find the substance which turns into pink colour when added to water.
- Silver Nitrate
 - Copper sulphate
 - Potassium permanganate
 - Sodium hydroxide
66. Identify the correct sequence to observe the onion roots while conducting experiment in your laboratory.
- Observe the structure and arrangement of the cells under the microscope.
 - Take an onion root tip and place it on the slide.
 - Cover it with cover slip and allow to spread the material.
 - Put a drop of water and then a drop of glycerine on it.
- (d), (c), (b), (a)
 - (a), (b), (c), (d)
 - (b), (d), (c), (a)
 - (d), (b), (c), (a)
67. You want to prepare a semi-permeable membrane in the lab, you have to
- wash the eggs with Sulphuric acid
 - keep the raw eggs in dil. HCl for 4-5 hours
 - keep the raw eggs in dil. HCl for 2-3 days
 - wash the eggs repeatedly under tap water

68. You keep dry kismis in a beaker with 100 ml of water in your laboratory. Choose the correct picture that shows the result.



It divides.



It shrinks.



It disappears.



It bulges.

69. After the completion of osmosis experiment in the lab, Keerthi wrote the procedure in her lab record like this :

- Take the raw potato and boiled potato.
- Peel-off skins.
- Pour sugar solution in the potato cup to a level.
- Cut cube shaped cups from the potato.
- Keep the potato cup in the bowl with water.

Choose the correct sequence of the above procedure :

- (a), (b), (c), (e), (d)
- (a), (b), (c), (d), (e)
- (a), (b), (e), (d), (c)
- (a), (b), (d), (c), (e)

70. Observe the diagram and choose what it depicts :



- Procedure for diffusion
- Conventional procedure for filtration
- Alternative procedure for filtration
- Modern technic for filtration

71. You have given coffee powder, crystals of Potassium permanganate, copper sulphate, petridish, water etc. Using this materials which experiment you can conduct in the lab ?

- Permeability
- Osmosis
- Diffusion
- Filtration

72. You want to test the behaviour of cockroaches. You prepare choice box as shown in the picture. In this experiment cockroaches choose this chamber.



- (1) Dark and damp
(2) Dark and dry
(3) Light and dry
(4) Light and damp

73. Match the following lists to identify the phenomenon that can be observed :

List - I

- (a) Beetle leaf
(b) Onion root tip
(c) Rheo leaf
(1) a - 3, b - 2, c - 1
(3) a - 2, b - 3, c - 1

List - II

- (1) Stomata
(2) Tissues
(3) Growth cells
(2) a - 1, b - 2, c - 3
(4) a - 3, b - 1, c - 2

74. A school Eco-club team conducted awareness campaign in their village on Swatch Bharat. They wanted to document it. Suggest proper way to prepare the report.

- (1) Report
• Purpose of the visit
• Procedure
• Time table
• Expenses
• Paper clippings

- (2) Report
• Introduction
• Purpose of the visit
• Procedure
• What we observed
• Photos
• Result

- (3) Report
• Result
• Expenses
• Introduction
• Duration
• Procedure

- (4) Report
• Introduction
• Procedure
• Expenses
• Photos
• Acknowledgement

75. Ramesh observed the following picture like structure in the microscope by preparing a temporary mount with Rheo leaf. What does the indicated part show ?



- (1) Shoot apex
(2) Root tip
(3) Stomata
(4) Egg cell

76. Observe the table and identify the correct sentences :

Monocot	
dicot	

- (a) All grass plants are monocots.
 (b) Wheat, Maize, Rice are having single cotyledons.
 (c) Peas, tamarind seeds do not split into half.
 (d) Peas, beans, tamarind, mango are dicots.
 (1) (a), (c), (d) only
 (2) (a), (b) only
 (3) (b), (d) only
 (4) (a), (b), (d) only

77. Observe the table and answer the questions :

S. No	Function	Name of the parts
1.	Absorption of water from soil	Roots
2.	Exchange of gases	Leaves
3.	Transpiration	Leaves
4.	Reproduction	Flowers

Identify the correct choice to match with the function of leaves.

- (1) Helps to attract the insects.
 (2) Giving mechanical support to the plant.
 (3) Participation in Protein synthesis.
 (4) Preparation of food through Photosynthesis.

78. Which of the following represents X and Y ?

	Cell X		Cell Y	
	Present	Absent	Present	Absent
Cell wall	✓			✓
Cytoplasm	✓		✓	
Nucleus	✓		✓	
Cell membrane	✓		✓	
Chloroplast	✓			✓

- (1) X - Animal cell, Y - Fungi Cell
 (2) X - Animal cell, Y - Plant Cell
 (3) X - Plant Cell, Y - Animal cell
 (4) X - Fungi cell, Y - Animal Cell

Read the following para and answer the 79 & 80 question given below :

The cells of the parenchyma are soft, thin walled and loosely packed. The parenchyma which contains chloroplasts is called "chlorenchyma". The parenchyma which contains large air cavities is called Aerenchyma. The parenchyma which stores water or food is called "Storage tissue".

79. Which parenchyma helps plant in the preparation of food ?
 (1) Storage tissue
 (2) Aerenchyma
 (3) Chlorenchyma
 (4) Schlerenchyma
80. Identify the parenchyma cells which are thick walled and tightly packed without spaces ?
 (1) Chlorenchyma
 (2) Collenchyma
 (3) Schlerenchyma
 (4) Dermal tissue