

Class 9 Science Chapter 3 – Important MCQs

Tissues in Action

 **New NCERT *Exploration* | 2026–27**

These MCQs are based on the **new Class 9 Science *Exploration* Chapter 3**, covering plant tissues, animal tissues, transport tissues, muscles, nervous tissue, bones and joints.

Section A – Basic Concepts

1. What is a tissue?

- A. A single organ
- B. A group of similar cells performing specific functions
- C. A complete organism
- D. A group of organs

 **Answer: B**

2. Plant tissues are broadly classified on the basis of their ability to divide into:

- A. Epithelial and connective
- B. Meristematic and permanent
- C. Muscular and nervous
- D. Simple and complex only

 **Answer: B**

3. Which tissue consists of actively dividing cells?

- A. Permanent tissue
- B. Meristematic tissue
- C. Sclerenchyma
- D. Phloem

✓ **Answer: B**

4. The main function of tissues in multicellular organisms is to:

- A. Make all cells identical
- B. Perform specialised functions efficiently
- C. Stop cell division completely
- D. Prevent growth

✓ **Answer: B**

5. Why are plant tissues different from animal tissues?

- A. Plants have no cells
- B. Plants are generally fixed in one place and require structural support
- C. Animals cannot move
- D. Plants do not need food

✓ **Answer: B**

Plants generally remain fixed in one place and require tissues that provide support, while animals have greater requirements for movement.

Section B – Meristematic Tissues

6. Which meristem is mainly responsible for increase in the length of roots and shoots?

- A. Lateral meristem
- B. Apical meristem
- C. Intercalary meristem
- D. Permanent tissue

✓ Answer: B

7. Lateral meristem mainly increases:

- A. Length
- B. Girth or thickness
- C. Number of leaves
- D. Flower colour

✓ Answer: B

8. Intercalary meristem is particularly important in grasses because it helps them:

- A. Produce seeds
- B. Regrow after cutting or grazing
- C. Absorb minerals
- D. Produce flowers

✓ Answer: B

9. Meristematic cells generally have:

- A. Large vacuoles and large intercellular spaces
- B. Thin cell walls and dense cytoplasm
- C. Thick lignified walls
- D. No nucleus

✓ Answer: B

10. The process by which meristematic cells become specialised permanent cells is called:

- A. Diffusion
- B. Differentiation
- C. Transpiration
- D. Fertilisation

✓ Answer: B

11. Which observation would best indicate the activity of an apical meristem?

- A. Increase in stem diameter
- B. Increase in root length
- C. Transport of food
- D. Formation of bark

✓ Answer: B



Section C – Permanent Plant Tissues

12. Which of the following is a simple permanent tissue?

- A. Xylem
- B. Phloem
- C. Parenchyma
- D. Blood

✓ Answer: C

13. Which set contains only simple permanent tissues?

- A. Parenchyma, collenchyma and sclerenchyma
- B. Xylem, phloem and parenchyma
- C. Xylem, phloem and blood
- D. Epidermis, xylem and phloem

✓ Answer: A

14. Parenchyma mainly helps in:

- A. Storage and basic metabolic functions
- B. Transporting water only

- C. Producing nerve impulses
- D. Forming bones

✓ Answer: A

15. Collenchyma mainly provides:

- A. Flexibility and support
- B. Water transport
- C. Food transport
- D. Nerve impulses

✓ Answer: A

16. Sclerenchyma cells are generally:

- A. Living and actively dividing
- B. Dead at maturity with thickened walls
- C. Without cell walls
- D. Filled only with chlorophyll

✓ Answer: B

17. Which tissue provides mechanical strength because of its thickened walls?

- A. Parenchyma
- B. Collenchyma
- C. Sclerenchyma
- D. Phloem

✓ Answer: C

Section D – Xylem, Phloem & Epidermis

18. Xylem mainly transports:

- A. Food
- B. Water and minerals
- C. Nerve impulses
- D. Hormones only

✓ **Answer: B**

19. Phloem mainly transports:

- A. Food
- B. Water only
- C. Oxygen
- D. Bone minerals

✓ **Answer: A**

20. Xylem and phloem are examples of:

- A. Simple permanent tissues
- B. Complex permanent tissues
- C. Meristematic tissues
- D. Animal tissues

✓ **Answer: B**

The textbook identifies **xylem and phloem as complex permanent tissues**, transporting water and food respectively.

21. Which tissue forms the outer covering of the plant body?

- A. Epidermis
- B. Phloem
- C. Xylem
- D. Sclerenchyma

✓ **Answer: A**

22. Stomata are mainly involved in:

- A. Gas exchange and regulation of water loss
- B. Food transport
- C. Cell division
- D. Bone movement

✓ **Answer: A**

23. Which plant tissue is primarily associated with protection?

- A. Epidermis
- B. Xylem
- C. Phloem
- D. Meristem

✓ **Answer: A**



Section E – Animal Tissues

24. How many major types of animal tissues are discussed in the chapter?

- A. Two
- B. Three
- C. Four
- D. Five

✓ **Answer: C**

The four major animal tissues are:

-  **Epithelial tissue**
 -  **Connective tissue**
 -  **Muscular tissue**
 -  **Nervous tissue**
-

25. Which animal tissue forms protective coverings and linings?

- A. Epithelial
- B. Muscular
- C. Nervous
- D. Connective

✓ Answer: A

26. Epithelial cells are generally:

- A. Loosely arranged with large spaces
- B. Closely packed with little space between them
- C. Always dead
- D. Without cell membranes

✓ Answer: B

27. Which epithelial tissue is best suited for rapid diffusion?

- A. A single layer of thin, flat cells
- B. Many layers of thick cells
- C. Muscle fibres
- D. Bone cells

✓ Answer: A

28. Which type of epithelial tissue is associated with absorption in the small intestine?

- A. Tall, pillar-like cells
- B. Flat cells only
- C. Bone tissue
- D. Nervous tissue

✓ Answer: A



Section F – Connective Tissue

29. Connective tissue mainly:

- A. Connects and supports tissues and organs
- B. Carries nerve impulses only
- C. Produces movement only
- D. Forms only the skin

 **Answer: A**

30. Which of the following is a connective tissue?

- A. Blood
- B. Epidermis
- C. Neuron
- D. Muscle fibre

 **Answer: A**

31. Which connective tissue provides strength, support and protection?

- A. Cartilage
- B. Bone
- C. Blood
- D. Tendon

 **Answer: B**

32. Cartilage is:

- A. Hard and completely rigid
- B. Soft and flexible and helps cushion joints
- C. A muscular tissue
- D. A nervous tissue

 **Answer: B**

The textbook describes cartilage as having a softer matrix that provides flexibility and cushions the ends of bones.

33. Tendons connect:

- A. Bone to bone
- B. Muscle to bone
- C. Muscle to muscle
- D. Nerve to bone

✓ **Answer: B**

34. Ligaments connect:

- A. Muscle to bone
- B. Bone to bone
- C. Nerve to muscle
- D. Skin to bone

✓ **Answer: B**

35. Which structure helps prevent excessive movement at a joint?

- A. Tendon
- B. Ligament
- C. Blood
- D. Neuron

✓ **Answer: B**



Section G – Muscular Tissue

36. Muscular tissue is specialised for:

- A. Contraction and movement
- B. Photosynthesis
- C. Water absorption
- D. Storage of DNA

✓ **Answer: A**

37. Which muscle is generally under voluntary control and attached to bones?

- A. Skeletal muscle
- B. Smooth muscle
- C. Cardiac muscle
- D. Nervous tissue

 **Answer: A**

38. Which muscle is found in organs such as the intestine and is generally involuntary?

- A. Smooth muscle
- B. Skeletal muscle
- C. Cardiac muscle
- D. Sclerenchyma

 **Answer: A**

39. Cardiac muscle is found in the:

- A. Heart
- B. Stomach
- C. Skin
- D. Bone

 **Answer: A**

40. Which movement is an example of voluntary movement?

- A. Heartbeat
- B. Movement of food through the intestine
- C. Writing with your hand
- D. Movement of blood through vessels

 **Answer: C**

The textbook distinguishes conscious actions such as running, writing and lifting objects as **voluntary movements**, while heartbeat and intestinal movement are involuntary.

Section H – Nervous Tissue & Musculoskeletal System

41. Nervous tissue mainly consists of:

- A. Neurons
- B. Bone cells
- C. Muscle fibres
- D. Sclerenchyma cells

✓ **Answer: A**

42. The main function of neurons is to:

- A. Transport water
- B. Receive and transmit nerve impulses
- C. Store food
- D. Produce bones

✓ **Answer: B**

43. The skeletal system mainly:

- A. Produces photosynthesis
- B. Protects organs and provides support
- C. Transports food in plants
- D. Produces hormones only

✓ **Answer: B**

44. Movement of the human body occurs through coordination between:

- A. Bones and muscles
- B. Blood and bones only
- C. Skin and blood
- D. Cartilage and blood only

✓ **Answer: A**

45. The system involving muscles and bones is called the:

- A. Digestive system
- B. Musculoskeletal system
- C. Respiratory system
- D. Excretory system

✓ **Answer: B**

The chapter explains that body movement depends on coordination between muscles and bones under the control of the nervous system.



Section I – Higher-Order MCQs

46. A plant stem increases in thickness year after year. Which tissue is mainly responsible?

- A. Apical meristem
- B. Lateral meristem
- C. Epidermis
- D. Phloem

✓ **Answer: B**

47. A grass plant is cut repeatedly but continues to grow from its lower regions. Which tissue explains this?

- A. Sclerenchyma
- B. Intercalary meristem

- C. Epidermis
- D. Xylem

 **Answer: B**

48. If xylem is severely damaged, which function will be directly affected?

- A. Transport of water and minerals
- B. Transport of nerve impulses
- C. Muscle contraction
- D. Digestion

 **Answer: A**

49. If phloem is damaged, which process is most directly affected?

- A. Transport of food
- B. Absorption of water by roots
- C. Bone formation
- D. Nerve transmission

 **Answer: A**

50. A person tears a ligament in the knee. Which function is most likely affected?

- A. Stability of the joint
- B. Transport of oxygen
- C. Digestion of food
- D. Production of nerve impulses

 **Answer: A**

51. Which pair is incorrectly matched?

- A. Xylem — water transport
- B. Phloem — food transport

- C. Tendon — bone to bone
- D. Ligament — bone to bone

✓ **Answer: C**



Remember:

Tendon → Muscle to Bone

Ligament → Bone to Bone

52. Which pair is correctly matched?

- A. Sclerenchyma — flexibility
- B. Collenchyma — flexibility and support
- C. Xylem — food transport
- D. Phloem — water transport

✓ **Answer: B**

53. Which tissue would be most suitable for rapid exchange of gases in the lungs?

- A. Thin epithelial tissue
- B. Sclerenchyma
- C. Bone
- D. Adipose tissue

✓ **Answer: A**

54. Which statement about skeletal muscle is correct?

- A. It is generally involuntary
- B. It is attached to bones and helps voluntary movement
- C. It is found only in the heart
- D. It transports water

✓ **Answer: B**

55. Which statement best explains why tissues are important?

- A. All cells perform exactly the same function
- B. Different groups of cells become specialised for particular functions
- C. Tissues prevent organisms from growing
- D. Tissues are found only in plants

✓ Answer: B

ANSWER KEY – CHAPTER 3

Q	Ans	Q	Ans	Q	Ans
1	B	20	B	39	A
2	B	21	A	40	C
3	B	22	A	41	A
4	B	23	A	42	B
5	B	24	C	43	B
6	B	25	A	44	A
7	B	26	B	45	B
8	B	27	A	46	B
9	B	28	A	47	B
10	B	29	A	48	A
11	B	30	A	49	A
12	C	31	B	50	A
13	A	32	B	51	C
14	A	33	B	52	B
15	A	34	B	53	A
16	B	35	B	54	B
17	C	36	A	55	B

18 B 37 A

19 A 38 A

Must-Remember for Exams

-  **Apical meristem → length**
-  **Lateral meristem → girth**
-  **Intercalary meristem → regrowth**
-  **Parenchyma → storage**
-  **Collenchyma → flexibility + support**
-  **Sclerenchyma → strength**
-  **Xylem → water + minerals**
-  **Phloem → food**
-  **Epithelial → protection/lining**
-  **Tendon → muscle to bone**
-  **Ligament → bone to bone**
-  **Muscular tissue → movement**
-  **Cardiac muscle → heart**
-  **Nervous tissue → impulses**