

21

The Competition in

Science & Research Skills

Science & Research
Test I & II
MODEL PAPERS

Class : VIII



Eduranet

Intellectual Olympiad Foundation

(Promoted by Eduranet Educational Society (Regd. 309/09))

Hyderabad | India

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SYLLABUS**I) Physics**

1. Force and Pressure
2. Friction
3. Sound
4. Chemical Effects of Electric Current
5. Light,
6. The Solar System
7. Natural Phenomena
8. Sources of Energy

II) Chemistry

1. Synthetic Fibres & Plastic
2. Metals & Non-Metals
3. Coal and Petroleum
4. Combustion and Flame
5. Pollution of Air, Water & Land

III) Biology

1. Crop Production & Management
2. Micro Organisms
3. Conservation of Plants and Animals
4. Reproduction in Animals
5. Cell Structure & Function

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SCIENCE & RESEARCH TEST-I

CODE: 2181

PRELIMS

Max. Marks : 75

Duration : 75 Mins.

General Instructions :

1. Please find the Answer Sheets (OMR) with in the envelop given to you.
2. Mention your Test Code, Student ID, Name, Class, Section and School Name on the OMR Sheet as per Question Paper and Hall Ticket.
3. This question paper contains 75 Questions, duration is 75 minutes.
4. Do rough work in the empty sheet provided along with this question paper.
5. Answer questions in OMR sheet only.
6. Don't write or tick anything on the question paper.
7. Use only Black or Blue Ball Point Pen or Dark Pencil to answer the question in OMR sheet.
8. Indicate the correct answer by darkening one of the 4 or 5 responses provided.
9. Submit only OMR sheet to the invigilator

1. Multiply 107.88 by 0.610 and express the result with correct number of significant figures

- | | |
|------------|-----------|
| a) 65.8068 | b) 65.807 |
| c) 65.81 | d) 65.8 |

2. One second is defined to be equal to

- a) 1650763.73 periods of the Krypton clock
- b) 652189.63 periods of the Krypton clock
- c) 1650763.73 periods of the Cesium clock
- d) 9192631770 periods of the Cesium clock

-
3. **A bullet of mass 0.01 Kg is fired from a gun weighing 5.0 kg. If the initial speed of the bullet is 250 m/s, calculate the speed with which the gun recoils.**
- a) - 0.50 m/s b) -0.25 m/s
c) + 0.05 m/s d) +0.25 m/s
4. **Four forces are acting on a body. If the body doesn't change its position or shape, the forces:**
- a) must be of equal magnitude
b) must be parallel & opposite
c) must add up to zero when taken as vectors
d) must be in a single line
5. **A passenger in a moving train tosses a coin. If the coin falls behind him, the train must be moving with**
- a) an acceleration b) a deceleration
c) a uniform speed d) any of the above
6. **If two balls each of mass 0.06 kg moving in opposite direction with speed of 4 m s^{-1} collide and rebound with same speed then the impulse imparted to each ball due to other is**
- a) 0.48 kg m s^{-1} b) 0.53 kg m s^{-1}
c) 0.81 kg m s^{-1} d) 0.92 kg m s^{-1}
7. **When the momentum of a body increases by 100%, its K, E. increases by**
- a) 20% b) 40%
c) 100% d) 300%

8. A ball of mass 2 Kg and another of mass 4 Kg are dropped together from a 60 feet tall building. After a fall of 30 feet each towards earth, their respective kinetic energies will be in the ratio of
- a) $\sqrt{2} : 1$ b) 1:4
c) 1 : 2 d) $1 : \sqrt{2}$
9. Which of the following must be known in order to determine the power output of an automobile ?
- a) Final velocity and height
b) Mass and amount of work performed
c) Force exerted and distance of motion
d) Work performed and elapsed time of work
10. The moon is 4×10^8 m from the earth. A radar signal transmitted from the earth will reach the moon in about
- a) 5.2 s b) 1.3 s
c) 2.6 s d) 0.70 s
11. A body weighs 700 N on the surface of the earth. What is its weight on the surface of a planet whose mass is $1/7$ th of that of earth and radius is $1/2$ times of earth ?
- a) 400 N b) 300 N c) 700 N d) 500 N
12. If the radius of earth shrinks by one percent and its mass remains the same, then acceleration due to gravity on the earth's surface will
- a) Increased by 1% b) decrease by 1%
c) decrease by 2% d) increase by 2%

- 13. If a liquid is heated in space under no gravity, the transfer of heat will take place by process of**
- a) conduction
 - b) convection
 - c) radiation
 - d) can not be heated in the absence of gravity
- 14. 500 g of water at 100°C is mixed with 300 g at 30°C. Find the temperature of the mixture. Specific heat of water = 4.2J g⁻¹ °C⁻¹.**
- a) 73.8 °C
 - b) 53.8 °C
 - c) 40 °C
 - d) 60 °C
- 15. When 60 calories of heat are supplied to 15g of water, the rise in temperature is**
- a) 75°C
 - b) 900°C
 - c) 4°C
 - d) 0.25°C
- 16. The wavelength of ultrasonics in air is of the order of**
- a) 10²m
 - b) 10¹m
 - c) 10⁻² m
 - d) 10⁰ m
- 17. A source is producing 15 oscillations (waves) in 3 seconds. Find its frequency ?**
- a) 15 Hz
 - b) 5 Hz
 - c) 0.2 Hz
 - d) 0.66 Hz

22. Internal reflections of light is prevented in human eye by

- a) iris
- b) pupil
- c) choroid
- d) blind spot

23. If a charged body attracts another body, the charge on the other body

- a) must be negative
- b) must be positive
- c) must be zero
- d) may be negative or positive or zero

24 One kilowatt approximately equals

- a) 1.34 hp
- b) 2.50 hp
- c) 1.56 hp
- d) 1.83 hp

25. What is the reason to pivot the compass needle on a sharp pin ?

- a) To minimise the magnetic effect on the pin
- b) To maximize the magnetic effect on the pin
- c) To minimize the friction between the pin and the compass needle.
- d) To ensure that the compass needle will not drop from the pivoted point.

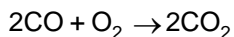
26. In the process of condensation, a gas changes into liquid and heat is evolved. In the process which form of energy of gaseous molecules is released as heat energy ?

- a) kinetic energy
- b) potential energy
- c) atomic energy
- d) none of these

27. Which of the following will yield a mixture ?

- a) crushing of marble tile
- b) Breaking of ice-cubes
- c) Addition of sodium metal to water in a china dish
- d) Agitating a detergent with water in a washing machine.

28. Consider the reaction



What volume of O₂ at S.T.P. will be required for complete combustion of 2 litres of CO at S.T.P.?

- a) 0.5 lit
- b) 1.0 lit
- c) 1.5 lit
- d) 2.0 lit

29. The mass of calcium chloride formed when 2.5g calcium carbonate are dissolved in excess of hydrochloric acid is

- a) 1.39 g
- b) 2.78 g
- c) 5.18 g
- d) 17.8 g

30. If two elements A and B contain 6 and 2 electrons in their N-shell and M-shell respectively. Then the ratio of atomic numbers of A and B is

- a) 3:4
- b) 1:2
- c) 6:7
- d) 2:1

31. Alpha (α) particles have a charge equal to

- a) + 1 unit
- b) + 2 units
- c) - 1 unit
- d) + 4 units

32. Which of the following electronic configurations is wrong

- a) Be (3) = 2,1
- b) O (8) = 2,6
- c) S (16) = 2,6,8
- d) P(15) = 2,8,5

33. Duralumin is an alloy containing

- a) Magnesium and aluminium
- b) Magnesium and copper
- c) Magnesium, copper and aluminium
- d) Magnesium, copper, manganese and aluminium

34. Metal which does not react with HCl is :

- a) Ag
- b) Mg
- c) Al
- d) Fe

35. Stainless steel is an alloy of :

- a) Fe, Cr, C, Ni
- b) Fe, Ni, C
- c) Cu, Al
- d) Fe, Al, Ni

36. Which of the following acid is used by goldsmiths for cleaning gold and silver ornaments ?

- a) HCl
- b) H_2SO_4
- c) HNO_3
- d) H_3PO_4

37. The pH of 1×10^{-8} M HCl solution is

- a) 8
- b) 7
- c) 6
- d) none of these

- 42. Which air pollutant is wrongly matched with the effect ?**
- Dust - reduces photosynthesis in green plants
 - Carbon monoxide - reduces oxygen in the blood
 - Chlorofluorocarbon - damages nerves and tissues
 - Nicotine - hardens and narrows blood vessels
- 43. Pollution from the burning of fossil fuels can be reduced by :**
- using an incinerator
 - using renewable energy
 - fixing catalytic converters in vehicles
- I only
 - II and III only
 - I and III only
 - I, II and III
- 44. Catalytic converters are used in :**
- automobiles
 - wind mills
 - poultry farms
 - diary farms
- 45. LPG is a mixture of**
- $C_6H_{12} + C_6H_6$
 - $C_4H_{10} + C_3H_8$
 - $C_2H_2 + C_2H_4$
 - $CH_4 + C_2H_4$
- 46. Why do black shoe polishes have an oily feel ?**
- It is a mixture of oil and powdered graphite.
 - When exposed to air it undergoes a chemical change and produces oily substances
 - vapour of some amount of oil is left over after its preparation
 - these are formed by dissolving charcoal in oil

- 47. Which of the following substances is used in place of H_2SO_4 in foam type of fire extinguishers ?**
- a) Saponin
 - b) Aluminium sulphate
 - c) Sodium carbonate
 - d) Alcohol
- 48. The element with atomic number 9 resembles with the element having atomic number**
- a) 8
 - b) 17
 - c) 36
 - d) 27
- 49. Law of Triad was proposed by**
- a) Newland
 - b) Gay Lussac
 - c) Mendeleev
 - d) Dobereiner
- 50. Element 'A' has electronic configuration 2, 7 'B' has configuration 2, 8, 6, 'C' has configuration 2, 8, 8 while 'D' has 2, 8, 7. Which element will show similar chemical properties ?**
- a) A and C
 - b) A and D
 - c) B and C
 - d) B and D
- 51. Howmany of the 20 amino acids are essential amino acids for an adult human ?**
- a) 6
 - b) 8
 - c) 11
 - d) 14
- 52. Vitamin B_2 is related with**
- a) FMN/FAD
 - b) NAD
 - c) NADH
 - d) ATP

53. Which of the following is NOT correctly matched ?

- a) Dengue fever - *Arbovir us*
- b) Plague - *Yersinia pestis*
- c) Syphilis - *Trichuris trichura*
- d) Sleeping sickness - *Trypanosoma gambiense*

54. 'Father of Zoology' is

- a) Carolus Linnaeus
- b) Aristotle
- c) John Ray
- d) Cuvier

55. Which of the following algae is being used in space research ?

- a) Chlorella
- b) Cladophora
- c) Hydrodictyon
- d) Chlamydomonas

56. Plants occuring on soils rich in salts are known as

- a) heliophytes
- b) halophytes
- c) geophytes
- d) thermophytes

57. Which of the following is upright in all the ecosystems ?

- a) Pyramid of number
- b) Pyramid of energy
- c) Pyramid of biomass
- d) All the above

58. The endangered largest living lemur Idiri idri is found in

- a) Madagascar
- b) Mauritius
- c) Sri Lanka
- d) India

59. Geothermal energy is

- a) non-renewable non-conventional energy source
- b) non-renewable conventional energy source
- c) renewable non-conventional energy source
- d) renewable conventional energy source

60. 'Project tiger' in India was started in

- a) 1970
- b) 1973
- c) 1981
- d) 1985

61. Which practices are examples of an integrated cultivation system ?

- I. Breeding livestock on oil palm plantations
- II. Breeding small fishes in paddy fields
- III. Planting many types of crops on a small area

- a) I and II only
- b) I and III only
- c) II and III only
- d) I, II and III

62. The practice of keeping the fields free for a season to replenish the lost nutrients is :

- a) monocropping
- b) crop rotation
- c) multiple cropping
- d) field fallow

63. The milch cattle are given more of _____ diet to get useful food products.

- a) carbohydrate
- b) protein
- c) fat
- d) water

64. Mitochondria are absent in :

- a) fungi
- b) bacteria & blue-green algae
- c) animal cells
- d) plant cells

65. Match the following and select the correct answer

- 1. Mitochondria
- 2. Chloroplast
- 3. Nucleus
- 4. Cell wall
- a. Helps in synthesis of food
- b. Controls all the activities of the cell
- c. Gives shape to the cell
- d. Provides energy

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

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

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

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

66. Average thickness of unit cell membrane is

a) 5 Å

b) 25 Å

c) 75 Å

d) 250 Å

67. Tonoplast is a differentially permeable membrane surrounding the

a) cytoplasm

b) vacuole

c) nucleus

d) mitochondria

68. Which one of the following can respire in total absence of air ?

a) Amoeba

b) Bed bug

c) Hydra

d) Tapeworm

69. In man, expired air contains oxygen about

- a) 4%
- b) 10%
- c) 16%
- d) 20%

70. The tricuspid valve occurs between the

- a) right auricle and right ventricle
- b) pulmonary aorta
- c) corotico -systemic aorta and left ventricle
- d) left ventricle

71. Microorganisms are used in biotechnology for :

- I. the production of bioplastic
 - II. the production of hormones
 - III. gene therapy
- a) II only
 - b) II and III only
 - c) I and III only
 - d) I, II and III

72. Virus multiplies in :

- a) culture medium
- b) dead tissue
- c) living tissue
- d) none of these

73. The figure given below shows the root nodules of legumes such as long beans or groundnuts.



What is the importance of the presence of bacteria in the root nodules of legumes ?

- a) The nitrate salts produced are used by the plants to produce proteins
- b) The ammonium compounds make the soil more fertile
- c) The nitrate salts produced help the plants to grow faster
- d) The nitrogen produced is required by the plants to accelerate the process of photosynthesis.

74. Which of the following is true for rayon ?

- a) Rayon cannot be obtained by chemical treatment of wood pulp.
- b) Rayon is also called artificial silk.
- c) Both the above are correct.
- d) None of the above is correct.

75. Since plastic are not generally attacked by chemicals, so they are ideal substitutes for

- a) Wood
- b) Metals
- c) Glass
- d) All of these

SOLUTIONS TO MODEL PAPER - II

- | | | | | | |
|-------|-------|-------|-------|-------|-------|
| 1. c | 2. c | 3. a | 4. c | 5. a | 6. a |
| 7. d | 8. c | 9. d | 10. b | 11. b | 12. d |
| 13. c | 14. a | 15. c | 16. c | 17. b | 18. b |
| 19. a | 20. a | 21. d | 22. c | 23. d | 24. a |
| 25. c | 26. b | 27. d | 28. b | 29. b | 30. d |
| 31. b | 32. c | 33. d | 34. a | 35. a | 36. c |
| 37. d | 38. c | 39. d | 40. a | 41. b | 42. c |
| 43. b | 44. a | 45. b | 46. c | 47. b | 48. b |
| 49. a | 50. b | 51. b | 52. a | 53. c | 54. c |
| 55. a | 56. b | 57. b | 58. a | 59. a | 60. b |
| 61. b | 62. d | 63. b | 64. b | 65. c | 66. c |
| 67. b | 68. d | 69. c | 70. a | 71. b | 72. c |
| 73. a | 74. a | 75. b | | | |

SCIENCE & RESEARCH TEST-II

CODE : 2182

FINALS

Max. Marks : 60

Duration : 60 Mins.

General Instructions :

1. Please find the separate Answer Sheets along with the question paper.
2. Mention your Test Code, Student ID, Name, Class, Section, Contact no. and School Name on the Answer Sheet as per Question Paper and Hall Ticket.
3. This question paper contains VII sections, duration is 60 minutes.
4. Please read the instructions carefully before attempting the question.
5. Answer questions in Answer Sheet only.
6. Don't write or tick anything on the question paper.
7. Use only Black or Blue Ball Point Pen to answer the question in Answer Sheet.
8. Submit only answer sheet(s) to the invigilator.

SECTION - I

8 × 1 = 8m

DIRECTIONS : (1 - 8) – Each question contains statements given in two columns which have to be matched. Statements in column A have to be matched with statements in column B and write in the answer sheet.

Column A

- 1) 1 g wt cm
- 2) 1 kg wt m
- 3) 746 W

Column B

- A) 720 erg
- B) 1 hp
- C) 980 erg

- | | |
|-------------------------|---------------------------|
| 4) 1 erg | D) 9.8×10^7 ergs |
| 5) $N_2O + O_2$ | E) Carbonic acid |
| 6) $H_2O + CO_2$ | F) Anaesthetic |
| 7) $95\%O_2 + 5\% CO_2$ | G) Hydrogen is formed |
| 8) $Al + NaOH + H_2O$ | H) Artificial breathing |
| | I) Acetic Acid |
| | J) 1 dyne cm |

SECTION - II**10 × 1 = 10m**

DIRECTIONS : (9 - 18) – Read the following statements and write your answer as true or false with reasons or solutions in the answer sheet.

- Soft iron can be easily magnetised and demagnetised.
- Einstein's photoelectric equation is written as $h\nu = W + K_{\max}$
- The acceleration of a particle is non-zero if its velocity is zero.
- It is easier to stop a tennis ball than a cricket ball moving with same speed.
- The function of MnO_2 in decomposition of H_2O_2 to produce oxygen is to act as a retardant.
- Natural latex is black in colour.
- The non-metallic property of arsenic is shown by formation of weakly basic arsenic hydride.
- Vessels, tracheids, wood fibres and parenchyma tissues are example of xylem.
- Cyanobacteria is also known as blue green algae.
- Genotype ratio of dihybrid cross is 3 : 1

SECTION - III**10 × 1 = 10m**

DIRECTIONS: (19 - 28) Complete the following statements with an appropriate word/term to be written in the answer sheet.

19. The dimensions of power are _____
20. A starts moving from rest with constant acceleration. Its velocity after covering a distance s is directly proportional to _____
21. When you stop pedalling the bicycle to slow down due to _____ force of friction.
22. If the velocity of a body is tripled, then the KE of the body becomes _____ times that of its initial value.
23. Co stands for _____ and CO stands for _____
24. Atomicity of oxygen is _____
25. $NaOH + \text{_____} \rightarrow NaNO_3 + H_2O$
26. Insects have respiratory tubules known as _____
27. Cell theory was proposed by _____ and _____.
28. Amoeba reproduces by the process of _____.

SECTION - IV**10 × 1 = 10m**

DIRECTIONS : (29 - 38) – Identify the correct answer from the given options and write in the answer sheet.

29. A ball of mass 2 kg and another of mass 4 kg are dropped together from a 60 feet tall building. After a fall of 30 feet each towards earth, their respective kinetic energies will be in the ratio of
 - a) $\sqrt{2} : 1$
 - b) $1 : 4$
 - c) $1 : 2$
 - d) $1 : \sqrt{2}$

30. Where will it be profitable to purchase one kilogram sugar?
- a) At poles
b) At equator
c) At 45° latitude
d) At 40° latitude
31. The apparent weight of wood floating on water if it weights 100g in air is
- a) 400 g
b) 300 g
c) 100 g
d) zero
32. Of the following, the one which has the highest specific heat is
- a) Aluminium
b) Copper
c) Water
d) Ice
33. Out of the following. Which is a sublime substance?
- a) Chlorine
b) Fluorine
c) Iodine
d) Gasoline
34. Brass is an example of
- a) Compound
b) Element
c) Homogeneous mixture
d) Heterogeneous mixture
35. Select the one that represents a displacement reaction.
- a) $NaCl + AgNO_3 \rightarrow AgCl + NaNO_3$
b) $Zn + CuSO_4 \rightarrow ZnSO_4 + Cu$
c) $HCl + NaOH \rightarrow NaCl + H_2O$
d) $C + O_2 \rightarrow CO_2$
36. Which of the following crops would enrich the soil with nitrogen?
- a) Apple
b) Beans
c) Paddy
d) Potato

37. The gas released during fermentation of sugar by yeast cell is
- a) Carbon dioxide
 - b) Carbon monoxide
 - c) Hydrogen
 - d) Oxygen
38. Species native to a particular habitat is known as
- a) Endemic species
 - b) Endangered species
 - c) Threatened species
 - d) Extinct species

SECTION - V

12 × 1 = 12m

DIRECTIONS : (39 - 50) – This section contains multiple choice questions. Each question has 4 choices (a), (b), (c) and (d) out of which ONE OR MORE may be correct. choose the correct answers and write in the answer sheet.

39. The specific heat capacities of two bodies A and B is in the ratio 1 : 2 and masses in the ratio 3 : 4 respectively, The ratio of their heat capacities is
- a) 3 : 2
 - b) 2 : 3
 - c) 6 : 16
 - d) 3 : 8
40. Choose the correct options?
- a) If the temperature scale is changed from °C to °F, the numerical value of specific heat will decrease
 - b) The ratio of one parsec to one light year is 3.26
 - c) The freezing point on a thermometer is marked as 20⁰ and the boiling point as 150⁰. the temperature of 60°C on this thermometer will read as 98⁰
 - d) 50°F = 10°C

41. The mirror that cannot be used in search light is
- a) Convex
 - b) plane
 - c) Concave
 - d) Cylindrical
42. Two resistances r_1 and r_2 ($r_1 < r_2$) are joined in parallel. Choose the incorrect options for the equivalent resistance R.
- a) $R < r_1$
 - b) $r_1 < R < r_2$
 - c) $R > r_1 + r_2$
 - d) $r_2 < R < r_1 + r_2$
43. Most of the chemical changes are found to undergo
- a) a change in the weight of the reacting substances
 - b) a change in temperature
 - c) a change in energy
 - d) all of the above are incorrect
44. Nuclear reactor
- a) It is a device which is used to convert nuclear energy into electrical energy
 - b) It is a device in which redox reaction is utilized to produce electrical energy
 - c) Diamond rods are used
 - d) Heavy water is used to slow down speed of fast moving neutrons.
45. Which of the following show lustre?
- a) Sodium
 - b) Graphite
 - c) Iodine
 - d) Neon

46. Which of the following gaseous exchange occurs in leaves of plant at the time of respiration?
- a) Oxygen diffuses out b) Oxygen diffuses in
c) Carbon dioxide diffuses out d) Carbon dioxide diffuses in
47. The developing foetus is protected by the
- a) Uterus b) Vagina
c) Amniotic fluid d) Umbilical cord
48. Which of the following animals undergo the process of metamorphosis?
- a) Frogs b) Insects
c) Mosquito d) Rat
49. Which of the following lie above hydrogen in the activity series?
- a) Aluminium b) Silver
c) Iron d) Lead
50. Select the correct statement about water
- a) water can exist in all the three forms of matter.
b) the b.p of water is 100°C
c) water can not be compressed
d) All the above are correct.

SECTION - VI**5 × 1 = 5m**

DIRECTIONS: (51 - 55) Fill in the blanks in the following passage(s) from words given inside the box.

screen, erect, inverted, virtual, real
--

The reflected or refracted rays converge at a point produce 51 image and when they appear to diverge from a point produce 52 images. Real image can be obtained on the 53 and image is always 54 But virtual image is always 55.

SECTION - VII

5 × 1 = 5m

DIRECTIONS : (56 - 60) – Each of these questions contains an Assertion followed by reason. Read them carefully and answer the question on the basis of following options. You have to select the one that best describes the two statements. and write in the answer sheet.

- a) If both **Assertion** and **Reason** are **correct** and Reason is the **Correct explanation** of Assertion.
- b) If both **Assertion** and **Reason** are correct, but Reason is **not the correct explanation** of Assertion.
- c) If **Assertion** is **correct** but **Reason** is **incorrect**.
- d) If **Assertion** is **incorrect** but **Reason** is **correct**.
56. **Assertion:** With rise of temperature Germanium acts as a semi-conductor
- Reason:** It shows metallic property.
57. **Assertion :** Out of electron, proton and neutron, the mass of electron is least.
- Reason:** The charge carried by an electron is $1.602 \times 10^{-19}c$.

58. **Assertion:** Silver and gold are found in free state in nature.

Reason: Silver and gold are noble metals.

59. **Assertion :** When the crop is changed during crop rotation, the weeds associated with it usually disappear.

Reason: The weeds are very choosy about the crop with which they grow.

60. **Assertion:** Pathogens are harmful to mankind.

Reason: They either kill or prevent the growth of microorganisms.

SOLUTIONS TO MODEL PAPER - II**SECTION – I****Match the Following**

- 1) → C; 2) → D; 3) → B; 4) → J;
5) → F; 6) → E; 7) → H; 8) → G;

SECTION – II**True / False**

- 9) True 10) True 11) True 12) True
13) False 14) False 15) True 16) True
17) True 18) True

SECTION – III**Fill in the Blanks**

- 19) $ML^{2T^{-3}}$ 20) t^2 21) unbalanced
22) nine 23) cobalt, carbon monoxide
24) 2 25) HNO_3 26) Trachea
27) Scheiden, Schwann 28) Binary fission

SECTION – IV**Multiple Choice Questions**

- 29) c 30) a 31) d 32) c
33) c 34) c 35) b 36) b
37) a 38) a

SECTION – V**More than one correct answers**

- | | | | |
|-------------|-------------|-------------|-------------|
| 39) c, d | 40) a, b, c | 41) a, b, d | 42) b, c, d |
| 43) a, b, c | 44) a, d | 45) a, b, c | 46) b, c |
| 47) a, c | 48) a, b | 49) a, c, d | 50) a, b |

SECTION – VI**Fill in the Passage**

- | | | |
|--------------|-------------|------------|
| 51) real | 52) virtual | 53) screen |
| 54) inverted | 55) erect. | |

SECTION – VII**Assertion & Reason**

56. b) If both **Assertion** and **Reason** are correct, but Reason is **not the correct explanation** of Assertion.
57. b) If both **Assertion** and **Reason** are correct, but Reason is **not the correct explanation** of Assertion.
58. a) If both **Assertion** and **Reason** are **correct** and Reason is the **Correct explanation** of Assertion.
59. a) If both **Assertion** and **Reason** are **correct** and Reason is the **Correct explanation** of Assertion.
60. c) If **Assertion** is **correct** but **Reason** is **incorrect**.