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Roll No. :

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Total : 100 Questions

Time : 2 Hours

CLASS

8

ENGLISH MEDIUM

- ◆ The paper consists of Four sections

MATHS : Section A : (20 Questions), Section B : (5 Questions)

CHEMISTRY : Section A : (20 Questions), Section B : (5 Questions)

BIOLOGY : Section A : (20 Questions), Section B : (5 Questions)

PHYSICS : Section A : (20 Questions), Section B : (5 Questions)

- ◆ Each question carries 1 mark. For each correct response, the candidate will get 1 marks. For each incorrect response, 0.25 marks will be deducted from the total scores.
- ◆ All questions are compulsory.
- ◆ Use of calculator is not permitted. Write your Name, Roll No. and Class clearly on the OMR SHEET and do not forget to sign it.
- ◆ To mark your choice of answers by darkening the circles in the OMR SHEET, use an HB Pencil or a Blue / Black ball point pen only.
E.g. 11. (A) (B) (C) (D)
- ◆ Rough work should be done in the blank space provided in the booklet.
- ◆ Return the OMR SHEET to the invigilator at the end of the exam.
- ◆ Write your Roll No. on the Question Paper too and take it home for future reference.

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MATHS – SECTION – A

1. Which of these is not a rational number when

$$x = \frac{-1}{2}?$$

- (a) $\frac{x}{5}$ (b) $\frac{x-1}{x}$
 (c) $\frac{x-\frac{1}{2}}{x+\frac{1}{2}}$ (d) $\frac{x+\frac{1}{2}}{x-\frac{1}{2}}$

2. What is the value of x in the given equation?

$$\frac{(3x+1)}{16} + \frac{(2x-3)}{7} = \frac{(x+3)}{8} + \frac{(3x-1)}{14}$$

- (a) 2 (b) 4
 (c) 3 (d) 5

3. Find the length of the diagonals of a rectangle, whose length and breadth are 24 cm and 7 cm respectively.

- (a) 25 cm, 25 cm (b) 23 cm, 14 cm
 (c) 18 cm, 23 cm (d) 14 cm, 23 cm

4. A letter is selected at random from the given word 'PROBABILITY'. What will be the probability of getting a consonant?

- (a) $\frac{2}{3}$ (b) $\frac{7}{11}$
 (c) $\frac{1}{2}$ (d) $\frac{5}{12}$

5. If a number is multiplied by itself three times and then 54 is added, gives 9315 as result, then find the number.

- (a) 27 (b) 21
 (c) 24 (d) 29

6. $(2x + 5y)(2x - 5y)(4x^2 + 25y^2)$ is equivalent to _____.

- (a) $16x^2 - 625y^2$ (b) $16x^4 - 625y^4$
 (c) $4x^2 - 25y^2$ (d) $4x^2 - 625y^4$

7. The value of $\sqrt{99} \times \sqrt{396}$ is

- (a) 254 (b) 208
 (c) 198 (d) None of these

8. Find the lateral surface area of a cylinder whose radius is 28 cm and height is 42 cm.

- (a) 5460 cm^2 (b) 7392 cm^2
 (c) 7942 cm^2 (d) 6492 cm^2

9. x varies inversely as square of y. If $y = 2$ for $x = 1$, then find the value of x for $y = 8$.

- (a) $\frac{1}{16}$ (b) $\frac{1}{2}$
 (c) $\frac{1}{8}$ (d) 16

10. Factorise : $9 - 12x + 4x^2$

- (a) $(2x + 3)$ (b) $(2 + 3x)(2 + 3x)$
 (c) $(2 + 3x)(2 - 3x)$ (d) $(2x - 3)(2x - 3)$

11. Jagriti borrowed ₹ 7000 for 3 years at 7% per annum simple interest. Find the amount paid by her after 3 years.

- (a) ₹ 7430 (b) ₹ 1470
 (c) ₹ 8470 (d) ₹ 7470

12. The point of intersection of coordinate axes is called _____.

- (a) Zero point (b) Common point
 (c) Origin (d) Null point

13. Read the statements carefully and select the correct option.

Statement I: 1024 is the least 4-digit number which is a perfect square.

Statement II: If the area of a square plot is $2\frac{14}{25} \text{ m}^2$, then the length of each side of the plot is 1.6 m.

- (a) Statement I is true; Statement II is false.
 (b) Statement I is false; Statement II is true.
 (c) Both Statement I and Statement II are true.
 (d) Both Statement I and Statement II are false.

14. **Assertion (A):** The fraction $\frac{1}{8}$ converted to percentage is 12.5%

Reason (R): A fraction represents a part of a whole or, more generally, any number of equal parts.

- (a) Both assertion and reason are true and reason is the correct explanation of assertion.
 (b) Both assertion and reason are true but reason is not the correct explanation of assertion.
 (c) Assertion is true but reason is false.
 (d) Assertion is false but reason is true.

15. Match the column.

	Column-I		Column-II
P.	When S.P. = ₹ 72, Discount = ₹ 8, then discount % = _____ %.	1.	111
Q.	When M.P. = ₹ 3500, Discount = 2%, then S.P. = ₹ _____.	2.	3430
R.	When S.P. = ₹ 585, Discount = 10%, then M.P. = ₹ _____.	3.	10
S.	18.5% of 600 = _____.	4.	650

(a) P → 1, Q → 2, R → 4, S → 3

(b) P → 4, Q → 3, R → 1, S → 2

(c) P → 3, Q → 2, R → 4, S → 1

(d) P → 4, Q → 2, R → 3, S → 1

16. Read the statement carefully and select the option which is true.

(A) The amount of money spent is directly proportional to the number of articles purchased.

(B) In inverse variation if one variable decreases, the other variable increases proportionally and vice-versa.

(C) The distance travelled is inversely proportional to time when the speed remains constant.

(D) If x and y vary directly as x = 16 and y = 64, then value of x is 24 when y = 96.

(a) A and B

(b) A, B and D

(c) Only C

(d) A, B and C

17. Read the statements carefully and select the correct option.

(A) The rational numbers $\frac{5}{-6}$ and $\frac{3}{2}$ lie on the opposite sides of zero on the number line.

(B) 0 is the smallest rational number.

(C) $\frac{11}{7}$ lies to the left of 0 on the number line.

(D) Every whole number is a rational number.

(a) A and B

(b) A and C

(c) A and D

(d) A, B, C, D

18. Read the statement carefully and select the correct option.

(A) The cubes of 3-digit numbers can have 7, 8 or 9 digits.

(B) The cube root of a negative number is always positive.

(C) The cube of the smallest 2-digit number is the smallest 4-digit number.

(D) The value of $\sqrt[3]{0.000064}$ is 0.002.

(a) B and C

(b) C and D

(c) A, B and C

(d) A and C

19. Read the statements carefully and select the correct option.

(A) The lateral surface area of a cube is the area of 6 faces of cube.

(B) Total surface area of a cuboid is greater than its curved surface area.

(C) If each edge of a cube is doubled, then the curved surface area of new cube is 4 times the original cube.

(D) Area of rhombus whose diagonals measure 20 cm and 29 cm is 560 cm^2 .

(a) A and B

(b) B and C

(c) C and D

(d) A and C

20. Read the statements carefully and select the correct option.
- (A) Factors of $32m^2 - 50n^2$ are 2, $(4m + 5n)$ and $(4m - 5n)$.
- (B) If the area of a rectangular gift pack is $x^2 + 7x - 30$, then the length and breadth can be $(x + 10)$ and $(x - 3)$.
- (C) The common factors of $5y$ and $2xy$ is 1 and y only.
- (D) $(16a^3b^2c + 4a^2b^3c - 12a^2bc^3) \div (4abc)$ gives $(4a^2b + ab^2 - 3ac)$.
- (a) A, B and C
(b) B, C and D
(c) A, B and D
(d) A, C and D

SECTION B

21. Read the statements carefully and select the correct option:

Statement I: The product of $(x^2 + y^2)$ and $(x^2 + xy + y^2)$ is $x^4y^4 + x^3y + xy^3 + x^2y^2$.

Statement II: Simplified form of $(3x + 2)(2x + 3) - (3x - 2)(2x - 3)$ is $26x$.

- (a) Statement I is true; Statement II is false.
(b) Statement I is false; Statement II is true.
(c) Both Statement I and Statement II are true.
(d) Both Statement I and Statement II are false.
22. **Assertion (A):** A man walks 20 km in 5 hours. Then he will take 8 hours in walking 32 km.
Reason (R): A direct proportion shows the direct relation between two quantities.
- (a) Both assertion and reason are true and reason is the correct explanation of assertion.
(b) Both assertion and reason are true but reason is not the correct explanation of assertion.
(c) Assertion is true but reason is false.
(d) Assertion is false but reason is true
23. **Assertion (A):** $2x + 3y - 5$ is a binomial.
Reason (R): A binomial is an algebraic expression that has two non-zero terms.

- (a) Both assertion and reason are true and reason is the correct explanation of assertion.
(b) Both assertion and reason are true but reason is not the correct explanation of assertion.
(c) Assertion is true but reason is false.
(d) Assertion is false but reason is true.

24.

Match the following and select the correct option.

	Column-I Exponential equation		Column-II Value of b
P.	$5^{4b} = (625)^{-1}$	1.	16
Q.	$(\sqrt{3})^b = 3^8$	2.	2
R.	$2^{3b-5} = \frac{1}{4^b}$	3.	-1
S.	$3^{2b+2} = 9^{2b-1}$	4.	1

- (a) $P \rightarrow 1, Q \rightarrow 2, R \rightarrow 3, S \rightarrow 4$
(b) $P \rightarrow 2, Q \rightarrow 1, R \rightarrow 4, S \rightarrow 3$
(c) $P \rightarrow 2, Q \rightarrow 3, R \rightarrow 1, S \rightarrow 4$
(d) $P \rightarrow 3, Q \rightarrow 1, R \rightarrow 4, S \rightarrow 2$

25.

Read the statements carefully and select the correct option.

- (A) The reciprocal of $((-4)^{-5})^{-1}$ is $\frac{1}{(4)^5}$.
(B) Exponential form of $-\frac{27}{64}$ is $\left(\frac{-3}{4}\right)^{-3}$.
(C) Product of square of $\frac{1}{2}$ and fourth power of $\left(\frac{2}{3}\right)$ is $\left(\frac{4}{81}\right)$.
(D) If $x = 2^{-1}$, then $(-x)^{-1}$ is -2 .
(a) Only A (b) B and C
(c) C and D (d) A and C

SCIENCE BIOLOGY

SECTION A

26.

- Chloroplasts found in
(a) Plant cell only
(b) Animal cell only
(c) Both of these
(d) None of these

27. The control unit of cell is
 (a) Nucleus (b) Cell wall
 (c) Cytoplasm (d) All of these
28. Fertilisation is called
 (a) To produce sperm
 (b) To produce eggs
 (c) Fusion of sperms and eggs
 (d) All of these
29. Spyrogyra is
 (a) An algae (b) A fungi
 (c) A protozoa (d) A bacteria
30. Vaccine for small pox is discovered by
 (a) Louis Pasteur
 (b) Alexander Fleming
 (c) Edward Jenner
 (d) John Mendal
31. Where does the fusion of male and female gametes generally take place?
 (a) Fallopian tube (b) Ovary
 (c) Uterus (d) Zygote
32. The cell formed after fertilisation is called
 (a) Foetus (b) zygote
 (c) Embryo (d) None of these
33. Egg are formed in the
 (a) Testes (b) penis
 (c) Ovary (d) None of these
34. Kharif crops are sown in
 (a) March, April
 (b) May, June
 (c) October, November
 (d) Any time.
35. Wheat and gram belong to
 (a) Rabi crops
 (b) Kharif crops
 (c) Both of these
 (d) None of these
36. Combines are used for:
 (a) Sowing of seeds
 (b) harvesting the crops
 (c) threshing
 (d) harvesting and threshing both
37. Separating grains from chaff is called:
 (a) Winnowing (b) threshing
 (c) fallow (d) harvesting
38. **Statement I:** Sex of human baby is determined by the type of sperm that fertilises the ovum.
Statement II: Human males are heterogametic and produce genetically two types of sperms, one with X and other with Y chromosome whereas females are homogametic and produce only type of ovum having only X chromosome.
 (a) Statement I is true Statement II is false.
 (b) Statement I is false Statement II is true.
 (c) Both Statement I and Statement II are true.
 (d) Both Statement I and Statement II are false
39. **Assertion (A):** Farmers have to add manure to the fields to replenish the soil with nutrients.
Reason(R): Continuous cultivation of crops makes the soil rich in nutrients.
 (a) Both assertion and reason are true and reason is the correct explanation of assertion.
 (b) Both assertion and reason are true but reason is not the correct explanation of assertion.
 (c) Assertion is true but reason is false.
 (d) Assertion is false but reason is true.
40. Match the column.
- | | Column-I | | Column-II |
|----|-------------------------|----|--|
| P. | Agriculture | 1. | Are adopted to provide food to our growing population |
| Q. | Animal husbandry | 2. | Practice of farming and cultivating of crop plants. |
| R. | Agricultural implements | 3. | The rearing and caring of animals to obtain food on large scale. |
| S. | Agricultural practices | 4. | Tools and machinery used for agricultural practices. |
- (a) $P \rightarrow 2, Q \rightarrow 4, R \rightarrow 3, S \rightarrow 1$
 (b) $P \rightarrow 2, Q \rightarrow 3, R \rightarrow 1, S \rightarrow 4$
 (c) $P \rightarrow 2, Q \rightarrow 3, R \rightarrow 4, S \rightarrow 1$
 (d) $P \rightarrow 1, Q \rightarrow 2, R \rightarrow 3, S \rightarrow 4$

41. Pimples and acne are formed due to the increased activity of:
 (A) Adrenal glands
 (B) Sebaceous glands
 (C) Thyroid gland
 (D) Sweat glands
 (a) A and B (b) B and C
 (c) A and C (d) B and D
42. Which of the following increase the fertility of soil
 (A) Lactobacillus bacteria
 (B) Rhizobium bacteria
 (C) Spirogyra algae
 (D) Blue –green algae
 (a) A and B (b) B and C
 (c) A and D (d) B and D
43. The dramatic changes in body features associated with puberty are mainly because of the secretions of:
 (A) Thyroxine
 (B) Estrogen
 (C) Adrenaline
 (D) Testosterone
 (a) A and B (b) B and C
 (c) A and C (d) B and D
44. Which of the following has internal fertilisation?
 (A) Bird
 (B) Cat
 (C) Human beings
 (D) Fish
 (a) A and B (b) B and C
 (c) A,B and C (d) C and B
45. Which of the following can lead to menstruation in a 21 year old woman during ovulation?
 (A) Sperms available for fertilization
 (B) Oviducts blocked
 (C) Sperms not available for fertilization
 (D) Oviducts not blocked
 (a) A and D (b) B and C
 (c) A and B (d) A, B and D

SECTION B

46. **Statement I:** Bacteria and fungi help in recycling of nutrients in an ecosystem.
Statement II: Bacteria and fungi decompose dead organic matter in simple forms which are returned to the soil and join the cycling pool.

- (a) Statement I is true Statement II is false.
 (b) Statement I is false Statement II is true.
 (c) Both Statement I and Statement II are true.
 (d) Both Statement I and Statement II are false.

47. **Assertion (A):** The microorganisms or microbes are cannot be seen with the unaided eye.

Reason(R): Because microorganisms or microbes are so small in size.

- (a) Both assertion and reason are true and reason is the correct explanation of assertion.
 (b) Both assertion and reason are true but reason is not the correct explanation of assertion.
 (c) Assertion is true but reason is false.
 (d) Assertion is false but reason is true.

48. **Assertion (A):** The animals which lay eggs are called oviparous.

Reason (R): The frogs lizard, butterfly are the viviparous.

- (a) Both assertion and reason are true and reason is the correct explanation of assertion.
 (b) Both assertion and reason are true but reason is not the correct explanation of assertion.
 (c) Assertion is true but reason is false.
 (d) Assertion is false but reason is true.

49. Match the column.

	Column-I		Column-II
P.	yeast	1.	Produces antibiotics
Q.	Blue green algae	2.	Making of cheese
R.	Fungi	3.	Production of alcohol
S.	Bacteria	4.	Increases soil fertility

- (a) $P \rightarrow 3, Q \rightarrow 4, R \rightarrow 1, S \rightarrow 2$
 (b) $P \rightarrow 3, Q \rightarrow 4, R \rightarrow 2, S \rightarrow 1$
 (c) $P \rightarrow 4, Q \rightarrow 2, R \rightarrow 3, S \rightarrow 1$
 (d) $P \rightarrow 4, Q \rightarrow 1, R \rightarrow 2, S \rightarrow 3$

50. Pesticides are used to destroy
- (A) Pests
(B) Insects
(C) Nematodes
(D) Crops
- (a) A only (b) A,B,C
(c) A,D (d) B,C

SCIENCE CHEMISTRY

SECTION A

51. The most commonly used liquid fuel in our homes is:
- (a) Kerosene (b) diesel
(c) Petrol (d) fuel oil

52. The main elements present in petroleum are:
- (a) carbon and oxygen
(b) carbon and nitrogen
(c) carbon and hydrogen
(d) hydrogen and oxygen

53. The main gas present in LPG is:
- (a) methane (b) propane
(c) Butane (d) hexane

54. Natural gas is called clean fuel because:
- (a) it burns without producing any smoke
(b) it burns completely
(c) it does not leave behind any residue
(d) all of these

55. Which of the following fuel produces ash on burning:
- (a) Wood (b) LPG
(c) petrol (d) diesel

56. The zone of a flame used by goldsmith for melting gold and silver is:
- (a) innermost zone
(b) middle zone
(c) outermost zone
(d) all of these

57. Heat and light produced in the sun is by:
- (a) combustion
(b) nuclear reactions
(c) burning
(d) None of these

58. A matchstick does not catch fire on its own at room temperature because its:
- (a) ignition temperature is more than room temperature.
(b) ignition temperature is less than room temperature.
(c) ignition temperature is same as room temperature.
(d) none of these.

59. Current is the flow of:
- (a) electrons
(b) protons
(c) neutrons
(d) None of these

60. The process in which a chemical change takes place in a substance, when electric current is passed through it is called:
- (a) electrolysis
(b) electrodes
(c) thermal conduction
(d) None of these.

61. Electroplating is a method of:
- (a) making plates
(b) coating a metal on another metal using electric current
(c) making plates which use electricity
(d) making a metal with another metal

62. Which liquid do not conduct electricity?
- (a) Common salt solution
(b) Acidic solution
(c) Distilled water
(d) None of these

63. **Statement I:** Hydrogen gas obtained from natural gas, is used in the production of fertilisers.
Statement II: Coke is also called 'black gold' due to its great commercial importance.
- (a) Statement I is true Statement II is false.
(b) Statement I is false Statement II is true.
(c) Both Statement I and Statement II are true.
(d) Both Statement I and Statement II are false

64. **Assertion (A):** Sunlight and air are inexhaustible resources.

Reason (R): These resources are present in unlimited quantities in nature and are not likely to be exhausted by human activities.

- (a) Both assertion and reason are true and reason is the correct explanation of assertion.
 (b) Both assertion and reason are true but reason is not the correct explanation of assertion.
 (c) Assertion is true but reason is false.
 (d) Assertion is false but reason is true.

65. Match the column.

	Column-I		Column-II
P.	Rusting of iron	1.	Spontaneous combustion
Q.	Exposure of Sodium to open air	2.	Slow combustion
R.	Burning of paper dipped in kerosene	3.	Explosion
S.	Burning in crackers	4.	Rapid combustion

(a) $P \rightarrow 1, Q \rightarrow 2, R \rightarrow 4, S \rightarrow 3$

(b) $P \rightarrow 3, Q \rightarrow 2, R \rightarrow 4, S \rightarrow 1$

(c) $P \rightarrow 2, Q \rightarrow 1, R \rightarrow 4, S \rightarrow 3$

(d) $P \rightarrow 2, Q \rightarrow 3, R \rightarrow 4, S \rightarrow 1$

66. Which of the following statements are incorrect?

- (A) Coke and coal are two names of the same substance.
 (B) Methane is released during mining of coal.
 (C) Natural gas has 60% methane.
 (D) Highest boiling fraction condenses at the bottom of fractionating column.

- (a) A and B (b) B and C
 (c) C and D (d) A and C

67. Select the incorrect statements from the following

- (A) The process of separating various constituents or fractions of petroleum is called destructive distillation.
 (B) Kerosene is used as a fuel for car engines.
 (C) Bitumen is used for paving road surfaces.
 (D) The liquid with the lowest boiling point condenses first near the top of the fractionating column.

- (a) A and B (b) B and C
 (c) C and D (d) A and C

68. Select the correct statements.

- (A) Both soda-acid type and foam type extinguishers cannot be used in fighting electrical fires.
 (B) Liquid carbon dioxide can be used for both electrical and oil fires.
 (C) Gaseous fuels are better than solid or liquid fuels.
 (D) Burning of charcoal produces flame with four distinct zones.

- (a) A and B (b) B and C
 (c) C and D (d) A and C

69. Select the incorrect statements.

- (A) Carbon dioxide is an inflammable gas.
 (B) Carbon dioxide is heavier than air.
 (C) Carbon dioxide stored as a liquid in fire extinguisher cools the combustible substance below its ignition temperature.
 (D) Carbon dioxide is stored at high temperature.

- (a) A and B (b) B and C
 (c) C and D (d) A and D

70. Select the correct statement.

- (A) Methane has higher calorific value as compared to coal.
 (B) The rubbing surface of a matchbox has potassium chlorate and a little white phosphorus on it.
 (C) Water should not be used to extinguish fire involving electrical equipments.
 (D) CO_2 is the best extinguisher for fire involving inflammable materials like petrol.

- (a) A and B (b) B and C
 (c) C and D (d) A, C and D

SECTION B

71. **Statement I:** Petrol condenses near the top of the column as compared to diesel oil.

Statement II: Petrol is more volatile than diesel oil.

- (a) Statement I is true Statement II is false.
 (b) Statement I is false Statement II is true.
 (c) Both Statement I and Statement II are true.
 (d) Both Statement I and Statement II are false.

72. **Assertion (A):** Ignition temperature is the minimum temperature at which a substance catches fire.

Reason (R): All substances catch fire at same temperature.

- (a) Both assertion and reason are true and reason is the correct explanation of assertion.
 (b) Both assertion and reason are true but reason is not the correct explanation of assertion.
 (c) Assertion is true but reason is false.
 (d) Assertion is false but reason is true.

73. **Assertion (A):** Magnesium and charcoal are combustible substances.

Reason (R): A chemical process in which a substance reacts with oxygen to give off heat is called combustion.

- (a) Both assertion and reason are true and reason is the correct explanation of assertion.
 (b) Both assertion and reason are true but reason is not the correct explanation of assertion.
 (c) Assertion is true but reason is false.
 (d) Assertion is false but reason is true.

74. Match the column.

	Column-I		Column-II
P.	Gas obtained on Complete combustion of fuel	1.	Dark zone
Q.	Coldest part of flame	2.	Hydrogen
R.	Gas obtained on Incomplete Combustion of fuel	3.	Carbon dioxide
S.	Gas used in rocket	4.	Carbon monoxide
		5.	Non-luminous zone
		6.	Nitrogen

- (a) $P \rightarrow 1, Q \rightarrow 2, R \rightarrow 4, S \rightarrow 3$
 (b) $P \rightarrow 3, Q \rightarrow 2, R \rightarrow 4, S \rightarrow 1$
 (c) $P \rightarrow 3, Q \rightarrow 1, R \rightarrow 4, S \rightarrow 2$
 (d) $P \rightarrow 2, Q \rightarrow 3, R \rightarrow 4, S \rightarrow 1$

75. Consider the following statements and select the correct one.

- (A) Cathode is joined with positive terminal of battery.
 (B) Anode is joined with negative terminal of battery.
 (C) Cathode is joined with negative terminal of battery.
 (D) Anode is joined with positive terminal.
 (a) A and B (b) B and C
 (c) C and D (d) A and C

Science PHYSICS

SECTION A

76. In a circular path, direction of motion is changed by force which acts:

- (a) towards the tangent on the circular path passing through object.
 (b) towards the centre of circular path.
 (c) away from the centre of circular path along the line joining centre and the object.
 (d) None of these.

77. To stretch a bow, an archer applies:

- (a) spring force
 (b) muscular force
 (c) frictional force
 (d) gravitational force

78. Four similar cars having exactly the same mass are running at the same speed on the same road, when brakes are applied at the same time. The cars come to stop after covering distance of 5m, 5.5m, 4.8m and 5.2m respectively. The friction between the brake pads and discs will be maximum in the car which travels the distance of:

- (a) 5m (b) 5.5m
 (c) 4.8m (d) 5.2m

79. If the static friction between two surfaces P and Q is measured to be 50N, then the sliding friction between these two surfaces is most likely to be

- (a) 75N (b) 45N
 (c) 55N (d) 65N

80. Which of the following represent correct values for the normal atmospheric pressure?
- 101.3 kPa
 - 76 mm of mercury
 - 101.3 Pa
 - 76 cm of mercury
- (i) and (ii)
 - (ii) and (iii)
 - (i) and (iv)
 - (iii) and (iv)
81. A violin is made to vibrate. What would cause the pitch of the sound to rise?
- increasing the length of string
 - increasing the thickness of string
 - decreasing the length of string
 - none of the above
82. If frequency of sound increases, then time period:
- becomes negative
 - remains constant
 - also increases
 - decreases
83. The tremendous electric charges in the atmosphere which produce sheet lightning in the clouds are produced by the process of:
- friction
 - induction
 - conduction
 - convection
84. The earth's plate responsible for causing earthquakes lies in:
- the mantle of the earth
 - the inner core of the earth
 - the crust of the earth
 - the outer core of the earth
85. A ray of light falls on a surface, making an angle of 30° with the horizontal. What will be the angle between incident ray and reflected ray?
- 60°
 - 80°
 - 100°
 - 120°
86. The number of cones in nocturnal animals is:
- more than number of rods
 - less than number of rods
 - equal to number of rods
 - cannot say
87. Which of the following is not a member of the solar system?
- an asteroid
 - a satellite
 - a constellation
 - a comet

88. **Statement I:** Laws of reflection are obeyed irregular reflection.

Statement II: Laws of reflection are not obeyed in irregular reflection.

- Statement I is true Statement II is false.
- Statement I is false Statement II is true.
- Both Statement I and Statement II are true.
- Both Statement I and Statement II are false

89. **Assertion (A):** The tyres of aircraft are slightly conducting.

Reason (R): If a conductor is connected to ground, the extra charge induced on conductor will flow to ground.

- Both assertion and reason are true, and reason is the correct explanation of assertion.
- Both assertion and reason are true, but reason is not the correct explanation of assertion.
- Assertion is true, but reason is false.
- Assertion is false, but reason is true.

90. Match the column.

	Column-I		Column-II
P.	Small grainpieces Falldown while sieving	1.	Buoyant force
Q.	A gas filled balloon moving up in air	2.	Magnetic force
R.	The doorbell chimes when we press the button	3.	Gravitational force
S.	Meteor burns in air after it enters atmosphere	4.	Frictional force

- $P \rightarrow 1, Q \rightarrow 2, R \rightarrow 3, S \rightarrow 4$
- $P \rightarrow 3, Q \rightarrow 1, R \rightarrow 4, S \rightarrow 2$
- $P \rightarrow 2, Q \rightarrow 3, R \rightarrow 4, S \rightarrow 1$
- $P \rightarrow 3, Q \rightarrow 1, R \rightarrow 2, S \rightarrow 4$

91. Which of the following statements are correct?
- (A) Pressure in liquids and gases always acts downwards.
- (B) We start bleeding on reaching higher altitudes due to decreased atmospheric pressure.
- (C) Camels have broad feet to decrease pressure on sand.
- (D) Force is equal to pressure multiplied by area.
- (a) A,B and C (b) A,C and D
- (c) B,C and D (d) None of these
92. Which of the following statements are correct?
- (A) It is easier to roll than to slide some heavy object over another fixed object.
- (B) If there is less friction between the car tyres and the road, then the car can move forward very smoothly without skidding.
- (C) Friction helps a person to climb a tree or a pole.
- (D) Ball bearings are designed to increase friction between moving parts of machines.
- (a) A and B (b) B and C
- (c) C and D (d) A and C
93. Which of the following statements about Venus are correct?
- (A) It is called morning star and evening star.
- (B) It is called the Earth's twin.
- (C) It is the hottest planet of the solar system.
- (D) It is the third nearest planet to the Sun and second nearest to the Earth.
- (a) A,B and C (b) A and B
- (c) A and C (d) A,C and D
94. Which of the following statements regarding defects of vision are incorrect?
- (A) Myopia is also called short sightedness.
- (B) Hypermetropia can be corrected by wearing spectacles made of concave lenses.
- (C) Hypermetropia is also called short sightedness.
- (D) Cataract can be corrected by surgical methods.
- (a) A and D (b) B and C
- (c) B and D (d) C and D
95. Which of the following statements are correct?
- (A) In charging by friction, the two bodies acquire equal and opposite charges.
- (B) In charging by conduction, opposite charge is acquired by the uncharged body.
- (C) In charging by induction, the far end of the uncharged body acquires same charge as charged body.
- (D) Lightning occurs due to electric discharge on a large scale.
- (a) A, B and C (b) B,C and D
- (c) A, B and D (d) A, C and D
96. **Statement I:** A blunt knife cuts with difficulty because of increased pressure it creates.
- Statement II:** On increasing the level of height, atmospheric pressure decreases.
- (a) Statement I is true Statement II is false.
- (b) Statement I is false Statement II is true.
- (c) Both Statement I and Statement II are true.
- (d) Both Statement I and Statement II are false.
97. **Assertion (A):** We call sounds produced by barking of dogs, honking of horns by trucks, buses and cars as noise.
- Reason (R):** Noise is produced by irregular and non-periodic vibrations.
- (a) Both assertion and reason are true and reason is the correct explanation of assertion.
- (b) Both assertion and reason are true but reason is not the correct explanation of assertion.
- (c) Assertion is true but reason is false.
- (d) Assertion is false but reason is true.
98. **Assertion (A):** Concave lens always forms a real and inverted image.
- Reason (R):** Concave lens diverges a parallel beam of light.
- (a) Both assertion and reason are true, and reason is the correct explanation of assertion.
- (b) Both assertion and reason are true, but reason is not the correct explanation of assertion.
- (c) Assertion is true, but reason is false.
- (d) Assertion is false, but reason is true.

99. Match the column.

	Column-I		Column-II
P.	Closest celestial object to the earth	1.	New Moon
Q.	Galaxy to which our solar system belongs	2.	Constellations
R.	Recognisable patterns of stars in the sky	3.	Moon
S.	The phase when the moon is totally invisible	4.	Milky Way

- (a) P → 3, Q → 4, R → 2, S → 1
 (b) P → 4, Q → 3, R → 2, S → 1
 (c) P → 1, Q → 2, R → 3, S → 4
 (d) P → 2, Q → 1, R → 4, S → 3

100. Which of the following statements are correct?

- (A) Rods are cells present in the retina which are sensitive to colours.
 (B) Cones are cells present in the retina of an eye which are sensitive to bright or normal light.
 (C) Blind spot is a small area of the retina insensitive to light.
 (D) Optic nerve carries impulses from the retina to brain.
- (a) A, B and D (b) A, B and C
 (c) A, C and D (d) B, C and D



ANSWER KEY

Q	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ans	c	d	a	b	b	b	c	b	a	d	c	c	c	a	c	b	c	d	b	a
Q	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Ans	b	a	d	d	c	a	a	c	a	c	a	b	c	b	a	d	a	c	c	c
Q	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans	d	d	d	c	b	c	a	c	a	d	a	c	c	d	a	c	b	a	a	a
Q	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Ans	b	c	a	a	c	d	a	b	d	d	c	c	a	c	c	b	b	c	b	c
Q	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Ans	c	d	a	c	d	b	c	a	b	d	c	d	c	b	d	b	b	d	a	d

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Outstanding Results

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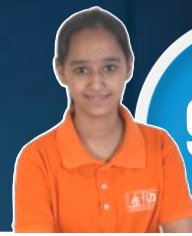


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KAVYA SHAH

OLYMPIADS RESULT



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180

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610

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