



TARGET IIT JEE-PMT CLASSES™

(NTTSE) National Target Talent Search Examination

(FOR CLASS VIII STUDENT)

Time: 2:15 Hrs.

INSTRUCTIONS FOR THE CANDIDATES

M.M: 540

Parts	Section	Subject	No. of Questions	Mark per Question	Negative Marking	Total Marks
PART - I	A	Physics	15	4	-1/4 th	60
	B	Chemistry	15	4	-1/4 th	60
	C	Biology	15	4	-1/4 th	60
	D	Mathematics	45	4	-1/4 th	180
PART - II	E	Mental Ability	25	4	-1/4 th	100
	F	Reasoning	20	4	-1/4 th	80
Total			135			540

- ❖ Read each question carefully.
- ❖ Do not use white – fluid or any other rubbing material on sheet. No change in the answer once marked.
- ❖ Student can not use log tables and calculators or any other electronic material in the examination hall.
- ❖ Rough work is to be done on the rough sheet provided for this purpose with the booklet.
- ❖ Immediately after the prescribed examination time is over, the answer sheet to be returned to the invigilator.
- ❖ Marking Scheme:
 - a. If darkened bubble is RIGHT answer: **4 Marks**.
 - b. If no bubble is darkened in any question: **No Mark**.
 - c. If darkened bubble is WRONG answer: **-1/4 Marks (Minus)**
- ❖ If you are found involved in cheating or disturbing others then your OMR Sheet will be cancelled.
- ❖ Do not put any stain on OMR Sheet and hand it over back properly to the invigilator.

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PART I
SECTION -A: PHYSICS

This section contains **15 Multiple Choice Questions**. Each question has four choices (a), (b), (c) and (d) out of which **ONLY ONE** is correct.

1. Pressure is defined as
 - (a) $\frac{\text{force}}{\text{area}}$
 - (b) $\frac{\text{area}}{\text{force}}$
 - (c) Force \times area
 - (d) Area – force
2. Which of the following is weakest force in nature?
 - (a) Gravitational force
 - (b) Electrostatics force
 - (c) Magnetic force
 - (d) All of these
3. The pressure at the bottom of the sea is
 - (a) Greater than at sea level
 - (b) Lesser than at sea level
 - (c) Same
 - (d) None of these
4. Which of the following is not a correct statement?
 - (a) A force can change the state of rest or motion of a body
 - (b) A force can change the direction of a body
 - (c) A force can change the chemical properties of a body
 - (d) A force can change the dimensions of a body.

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5. The acceleration due to gravity near the surface of moon is
- (a) $\frac{1}{6}$ of the acceleration due to gravity of earth
 - (b) Almost equal to acceleration due to gravity of earth
 - (c) 6 times the acceleration due to gravity of earth
 - (d) $\frac{1}{12}$ of the acceleration due to gravity of earth.
6. An object placed on a equal-arm balance requires 12 kg to balance it. When placed on a spring scale, the scale reads 12 kg. Everything (balance, scale, set of weights and object) is now transported to the Moon where the free-fall acceleration is one-sixth that on Earth. The new readings of the balance and spring scale (respectively) are
- (a) 12 kg, 12 kg
 - (b) 2 kg, 2 kg
 - (c) 12 kg, 2 kg,
 - (d) 2 kg, 12 kg
7. Friction acts when there is relative motion between
- (a) Solids
 - (b) Liquids
 - (c) Gases
 - (d) Solid, liquids or gases.
8. Friction is
- (a) Always a disadvantage
 - (b) Always an advantage
 - (c) Sometimes a disadvantage ad sometimes an advantage
 - (d) Neither a disadvantage nor an advantage.

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9. The force of friction between two bodies is
- (a) A parallel to the contact surface.
 - (b) Perpendicular to the contact surface.
 - (c) Inclined at 30° to the contact surface.
 - (d) Inclined at 60° to the contact surface.
10. Which of the following one is a right arrangement?
- (a) Rolling friction > static friction > sliding friction
 - (b) Sliding friction > static friction > rolling friction
 - (c) Rolling friction > static friction = sliding friction
 - (d) Static friction > rolling friction < sliding friction.
11. Why a horse needs to pull harder during the first few steps in pulling the cart?
- (a) Limiting friction is greater than dynamic friction
 - (b) Sliding friction is greater than rolling friction
 - (c) No frictional force acts after the cart comes in motion
 - (d) Air friction is greater during first few steps.
12. The sound in human is produced by
- (a) Heart
 - (b) Mouth
 - (c) Larynx
 - (d) Hair
13. Unit of frequency is
- (a) Decibel (dB)
 - (b) hertz (Hz)
 - (c) Meter
 - (d) Second

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14. The hearing range of human ear is

- (a) 20 Hz to 20, 000 Hz
- (b) Less than 20 Hz
- (c) More than 20, 000 Hz
- (d) 20, 00 Hz to 25, 000 Hz

15. The speed of sound in air is

- (a) 330 km s⁻¹
- (b) 330 km h⁻¹
- (c) 330 m s⁻¹
- (d) 300 m s⁻¹

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SECTION -B: CHEMISTRY

This section contains **15 Multiple Choice Questions**. Each question has four choices (a), (b), (c) and (d) out of which **ONLY ONE** is correct.

16. Which of the following is not a characteristic of plastics?

- (a) Plastics are poor conductors of heat.
- (b) Plastics are insoluble in water.
- (c) Plastics are non-inflammable.
- (d) Plastics do not react with water and air.

17. Match column I with column II and mark the correct option from the codes given below.

Column I	Column II
Polyester	(i) Prepared by using wood pulp
Teflon	(ii) Used for making para chute and stockings
Rayon	(iii) Used for making non-stick cook wares
Nylon	(iv) Fabrics do not wrinkle easily

- a. (iii), - (iv), - (i), - (ii)
- b. - (iv), - (iii), - (i), - (ii)
- c. (iv), - (iii), - (ii), - (i)
- d. (i), - (ii), - (iii), - (iv)

18. Which of the following applications of plastics show(s) that plastics are bad conductors of electricity?

I. Refrigerators have an insulating wool of plastics.

II. Electric wires have a plastic coating.

III. Chemicals are stored in plastic containers.

IV. Parachutes are made from plastics.

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

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19. Which of the following statements are correct?

(I) Coal, petroleum and natural gas are called fossil fuels.

(II) Coal and natural gas are exhaustible substances.

(III) CNG is more polluting than petrol.

(IV) Coke is used in the manufacture of steel.

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

20. In the oil wells, X forms the topmost layer, followed by Y and finally Z. X, Y and Z are respectively

- (a) Natural gas, oil and water
- (b) Petroleum gas, oil and natural gas
- (c) Natural gas, water and oil
- (d) Petroleum gas, oil and water.

21. Coal tar can be used as a starting material for manufacturing

(i) Drugs

(ii) Photographic materials

(iii) Cookwares

(iv) Explosives

- (a) Only (i)
- (b) (ii) and (iv)
- (c) (i), (ii) and (iv)
- (d) (ii), (iii) and (iv)

22. A spoon is kept in contact with ice cubes for some time. Later, the same spoon was held over the flame of a small candle. The observation is shown in the figure. What do you infer from the given figure?

- (a) Spoon is an inflammable substance.
- (b) Burning of candle is a spontaneous process.
- (c) Carbon dioxide is a product of combustion.
- (d) Water vapour is a product of combustion



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23. Which of the following statements are true?

I. Yellow flames are ideal for heating.

II. The substances which vaporise during burning give flames.

III. Luminous zone contains unburnt carbon particles.

IV. The non-luminous zone has highest temperature.

- (a) I, II and III
- (b) I, II and IV
- (c) II, III and IV
- (d) I, III and IV

24. Advantages of synthetic fibres are

- (a) They do not shrink on washing
- (b) They are easy to clean
- (c) They dry quickly
- (d) All of the above.

25. The polymer used in making non-stick, cook wares is

- (a) Rayon
- (b) Nylon
- (c) Teflon
- (d) Polymers.

26. The rearing of silk worms for obtaining silk is called

- (a) Pisciculture
- (b) Sericulture
- (c) Polyculture
- (d) Monoculture

27. Rayon is different from synthetic fibres because

- (a) It has silk like appearance
- (b) It is obtained from wood pulp
- (c) It is obtained from petrochemicals
- (d) It is a strong fibre.

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28. Which of the following properties would you consider when choosing a material for food containers?

- (i) Able to resist high temperatures
- (ii) A good insulator of heat
- (iii) Non-corrosive
- (iv) Can be made into various shapes
- (a) (i) and (iv) only
- (b) (ii) and (iii) only
- (c) (i), (ii) and (iv) only
- (d) All of the above

29. Rusting of iron requires the presence of

- (a) Air and water
- (b) CO_2 and water
- (c) O_2 and H_2
- (d) O_2 and N_2 .

30. Non- metals do not conduct electricity because

- (a) They have electrons
- (b) They do have free electrons
- (c) They are electron donors
- (d) They are electron acceptors

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SECTION – C : BIOLOGY

This section contains **15 Multiple Choice Questions**. Each question has four choices (a), (b), (c) and (d) out of which **ONLY ONE** is correct.

31. Ploughing helps in

- (a) Loosing of soil
- (b) Distribution of nutrients
- (c) Removal of microorganisms
- (d) Removal of pests.

32. Horticulture is

- (a) Production of vegetables, fruits and flowers
- (b) Production of plantation crops
- (c) Production of improved variety of seeds
- (d) Production of cereal crops.

33. Match the column I with column II and select the correct option from the codes given below.

Column-I**Column-II**

- | | | |
|----------------|-------|------------|
| A. Kharif crop | (i) | Wheat |
| B. Rabi crop | (ii) | Ploughing |
| C. Tilling | (iii) | Harvesting |
| D. Combine | (iv) | Paddy |

- (a) A – (i), B – (ii), C – (iii), D – (iv)
- (b) A – (iv), B – (i), C – (ii), D – (iii)
- (c) A – (iv), B – (iii), C – (ii), D – (i)
- (d) A – (iii), B – (iv), C – (i), D – (ii)

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34. Cocci are _____ shaped bacteria.

- (a) Rod
- (b) Round
- (c) Spiral
- (d) Comma

35. Cholera is caused by

- (a) *Streptococcus*
- (b) *Clostridium*
- (c) *Pasteurella*
- (d) *Vibrio*

36. Mosquitoes are vectors for

- I. Dengue fever
- II. Malaria
- III. Cholera

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

37. Which of the following is a correctly matched pair of useful microorganisms and their activities?

Microorganisms	Activity
I. Yeast	Ferments glucose to produce alcohol
II. Bacteria	Decompose dead materials
III. Nitrogen-fixing bacteria	Convert nitrogen into protein in plants

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

38. Red data book contains list of

- (a) Engaged plants and animals
- (b) Extinct animals
- (c) Endangered plants only
- (d) Exotic animals and plants

39. Chipko movement is concerned with

- (a) Plant conservation
- (b) Project Tiger
- (c) Animal breeding
- (d) Plant breeding

40. What is a core zone in a biosphere reserve?

- (a) A zone where human activity is permitted.
- (b) A zone where human activity is not permitted.
- (c) A zone where controlled hunting is permitted
- (d) A zone where burn cultivation is not permitted.

41. The “kitchen of the cell” is called

- (a) Cell wall
- (b) Nucleus
- (c) Vacuoles
- (d) Plastids.

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42. Match the following and select the correct option from the codes given below:

Column-I	Column-II
(A) Term for component present in the cytoplasm	(i) Organelle
(B) The living substance in the cell	(ii) Protoplasm
(C) This is necessary for photosynthesis	(iii) Chlorophyll
(D) Empty structure in the cytoplasm	(iv) Tissues
(E) A group of cells	(v) Organs
	(vi) Vacuole

- (a) A – (i), B – (ii), C – (iii), D – (vi), E – (iv)
- (b) A – (ii), B – (i), C – (iii), D – (vi), E – (iv)
- (c) A – (i), B – (ii), C – (iii), D – (vi), E – (v)
- (d) A – (ii), B – (i), C – (iii), D – (v), E – (iv).

43. Which of the following is incorrect regarding genes?

- (i) They control the transfer of hereditary characteristics.
- (ii) Nucleolus carry genes.
- (iii) They are part of chromosomes
- (iv) They are found only in the nucleus.

- (a) (iii) & (iv)
- (b) (iii) only
- (c) (i) only
- (d) (ii) & (iv)

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44. The cell shown below cannot be an animal cell because it has

- (i) Cytoplasm
- (ii) Nucleus
- (iii) Cell wall
- (iv) Large vacuole
- (a) (i) & (ii)
- (b) (i) & (iii)
- (c) (ii) & (iv)
- (d) (iii) & (iv)

45. Metamorphosis is

- (a) Transformation of larva into adult
- (b) Transformation of adult into larva
- (c) Transformation of child into adult
- (d) None of these

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SECTION - D : MATHEMATICS

This section contains **45 Multiple Choice Questions**. Each question has four choices (a), (b), (c) and (d) out of which **ONLY ONE** is correct.

46. Neeta's Volvo bus takes 50 boys to a field trip. Some of them take Rs.20 tickets while the rest take Rs. 45 tickets. If the total cost of tickets purchased is Rs. 2000, how many boys took the tickets of Rs. 20 each?
- (a) 7
(b) 10
(c) 12
(d) 15
47. Find the product of $(x^2 + 3x + 5)$ and $(x^2 - 1)$.
- (a) $x^4 + 3x^3 - 4x^2 - 3x - 5$
(b) $x^4 + 3x^2 + 4x^2 - 3x - 5$
(c) $x^4 + 3x^3 + 4x^2 - 3x - 5$
(d) $x + 3x^3 + 4x^2 - 3x + 5$
48. In a world Cup Final match against Srilanka, for six times Sachin Tendulkar hits a six out of 30 balls he plays. What is the probability that in a given throw, the ball does not hit a six?
- (a) $\frac{1}{4}$
(b) $\frac{5}{4}$
(c) $\frac{4}{5}$
(d) $\frac{3}{4}$
49. The square of which numbers below will contain the first nine natural numbers?
- (a) 1 1 1 1 1 1 1
(b) 1 1 1 1 1 1 1 1
(c) 1 1 1 1 1 1 1 1 1
(d) 1 1 1 1 1 1 1 1 1 1

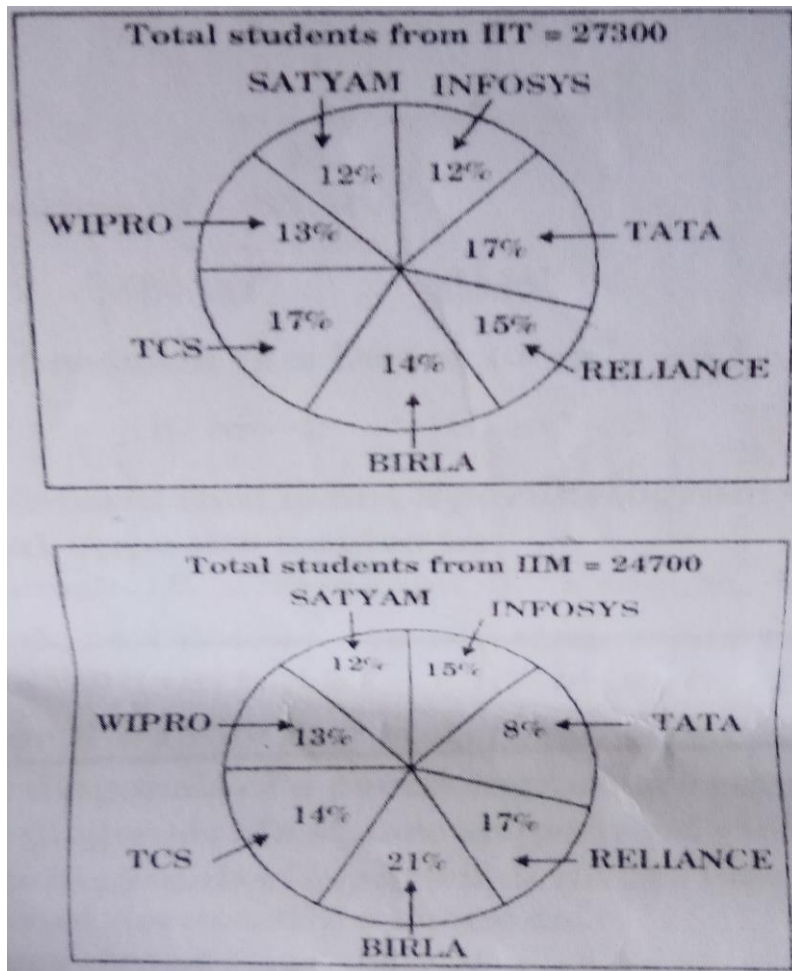
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50. The following pie-charts show the distribution of students of IIT's and IIM's in seven different companies TCS, WIPRO, SATYAM, INFOSYS, TATA, RELIANCE and BIRLA.



How many of TATA and BIRLA are students from IIT?

- (a) 4641
- (b) 3822
- (c) 8420
- (d) 8463

51. Which of the statements is true about consecutive natural numbers?

- (a) There are $2n + 1$ numbers between the differences of squares of consecutive numbers.
- (b) There are $2n$ non perfect square numbers between the squares of consecutive numbers.
- (c) The sum of the squares of two consecutive numbers is not a perfect square.
- (d) $n^2 - 1$ is the standard form of the difference between two consecutive numbers.

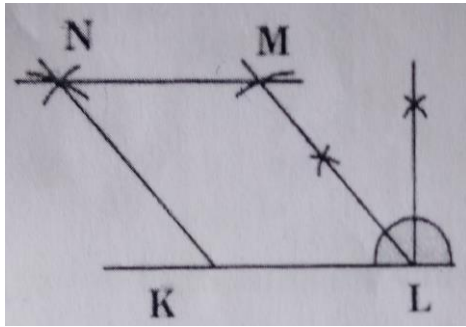
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52. In the diagram, KLMN is a constructed parallelogram.



Find the value of $\angle KLM$

- (a) 15°
- (b) 30°
- (c) 45°
- (d) 60°

53. Which expression is a factor of $m^4 - 16$?

- (a) $m + 5$
- (b) $m - 4$
- (c) $m^2 + 2$
- (d) $m - 2$

54. A quadrilateral that is not a parallelogram but has exactly two equal opposite angles is :

- (a) a rhombus
- (b) a trapezium
- (c) a square
- (d) a kite

55. Which of the following is a Pythagorean triplet?

- (a) 16, 18, 20
- (b) 1, 2, 3
- (c) 30, 40, 50
- (d) 50, 51, 52

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56. Consider the following statements:

- (1) The diagonals of a parallelogram are equal.
- (2) The diagonals of a square are perpendicular to each other.
- (3) If the diagonals of a quadrilateral intersect at right angles, it is not necessarily a rhombus.
- (4) Every quadrilateral is either a trapezium or a parallelogram or a kite.

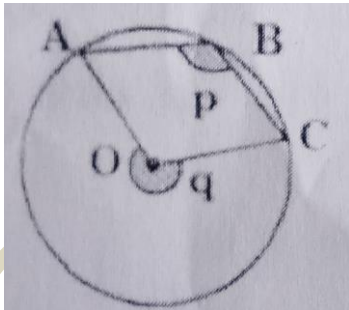
Which of the above statements is/are correct?

- (a) Only (2)
- (b) Only (3)
- (c) Both (2) and (3)
- (d) (1), (2) and (3)

57. The square root of 350 lies between which pair of numbers?

- (a) 18 and 19
- (b) 35 and 36
- (c) 3.5 and 3.6
- (d) 7 and 8

58. What is the relation between 'p' and 'q'?



- (a) $q = 2p$
- (b) $p = 2q$
- (c) $p = q$
- (d) $p > q$

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59. Find the cube root of $\frac{216}{343}$

- (a) $\frac{7}{11}$
- (b) $\frac{8}{9}$
- (c) $\frac{6}{7}$
- (d) $\frac{9}{11}$

60. Which of the following statements is incorrect?

- (a) A regular polygon is equiangular and equilateral.
- (b) A rectangle is equilateral but not equiangular.
- (c) Convex polygons have no portions of their diagonals in their exteriors.
- (d) Equilateral triangles are always equiangular.

61. If $ab = 6$ and $a + b = 5$, then find the value of $a^2 + b^2$.

- (a) 11
- (b) 12
- (c) 13
- (d) 16

62. Which rational numbers are equal to their reciprocals?

- (a) 0.1
- (b) -1, 0
- (c) -1, 1
- (d) -1, 0, 1

63. If each angle of regular polygon is 135° , how many sides does it have?

- (a) 6
- (b) 7
- (c) 8
- (d) 9

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- 64.** What is the percentage decrease, if a number reduces from 70 to 42?
- (a) 10%
(b) 25%
(c) 35%
(d) 40%
- 65.** A polyhedron has 11 faces and 18 vertices. Find the number of edges.
- (a) 15
(b) 27
(c) 33
(d) 21
- 66.** The population of a town increased at the rate of 10 % p.a. If in the year 2009 it was 3.2×10^7 , then what will be in the year 2012?
- (a) 4.2592×10^7
(b) 4259200
(c) 3.963×10^8
(d) 39860000
- 67.** Rajesh bought an arm chair for Rs. 2200 and sold it for Rs.2420. Find his profit percent.
- (a) 5%
(b) 10%
(c) 12%
(d) 15%
- 68.** If $x = \frac{1}{2}$, then find the value of $x + \frac{1}{1 + \frac{1}{1 + \frac{1}{x}}}$
- (a) $\frac{5}{4}$
(b) $\frac{4}{5}$
(c) $\frac{3}{4}$
(d) $\frac{4}{3}$

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69. Identify a rational; number between $\frac{1}{3}$ and $\frac{4}{5}$

(a) $\frac{1}{4}$

(b) $\frac{9}{10}$

(c) $\frac{17}{30}$

(d) $1\frac{7}{10}$

70. A letter is chosen at random from the letters in the word "PROBABILITY". What is the probability that letter will be a vowel?

(a) $5/11$

(b) $4/11$

(c) $2/11$

(d) $7/11$

71. When simplified and expressed with negative exponents, the expression $(x+y)^{-1}(x^{-1}+y^{-1})$ is equal to:

(a) $x^{-2} + 2x^{-1}y^{-1} + y^{-2}$

(b) $x^{-2} + 2^{-1}x^{-1}y^{-1} + y^{-2}$

(c) $x^{-1}y^{-1}$

(d) $x^{-2} + y^2$

72. By what least number by which 3600 be divided to make it a perfect cube?

(a) 9

(b) 50

(c) 300

(d) 450

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73. If $xy = b$ and $\frac{1}{x^2} + \frac{1}{y^2} = a$ then $(x + y)^2$ equals:

- (a) $(a + 2b)^2$
- (b) $a^2 + b^2$
- (c) $b(ab + 2)$
- (d) $\frac{1}{a} + 2b$

74. The sum of three numbers is 98. The ratio of the first to the second is $\frac{2}{3}$ and the ratio of the second to the third is $\frac{5}{8}$. The second number is :

- (a) 15
- (b) 20
- (c) 30
- (d) 32

75. Each edge of a cube is increased by 50%. The percent of increase in the surface area of the cube is :

- (a) 50
- (b) 125
- (c) 150
- (d) 300

76. A rational number can be expressed as a terminating decimal if the denominator has factors:

- (a) 2 or 5
- (b) 2, 3 or 5
- (c) 3 or 5
- (d) None of these

77. Which of the following is not equal to y^6 ?

- (a) $\left(y^{\frac{2}{3}}\right)^9$
- (b) $\left(\sqrt{y^6}\right)^2$
- (c) $\left(\sqrt[3]{y^{18}}\right)$

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(d) $\left(y^{\frac{1}{3}}\right)^{12}$

78. If $\sqrt{0.04x0.4xa} = 0.004x0.4x\sqrt{b}$ then, $\frac{a}{b}$ is equal to :

- (a) 16×10^{-3}
- (b) 16×10^{-4}
- (c) 16×10^{-5}
- (d) 16×10^{-2}

79. It is given that x varies directly as y and inversely as the square of z, and that x = 10 when y = 4 and z = 14. Then, when y = 16 and z = 7, x equals:

- (a) 180
- (b) 160
- (c) 154
- (d) 140

80. The product of x^2y and $\frac{x}{y}$ is equal to the quotient obtained when x^2 is divided by :

- (a) 0
- (b) 1
- (c) x
- (d) $\frac{1}{x}$

81. P alone can complete a work in 12 days, while P and Q together can complete the same work in 8 days. The number of days that Q will take to complete the work alone is :

- (a) 10
- (b) 24
- (c) 20
- (d) 9

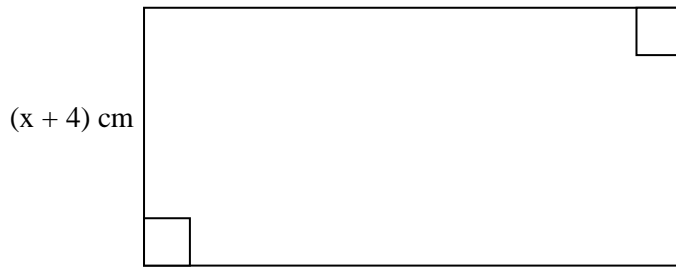
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82. The figure given below shows a rectangle with a perimeter of 60 cm.



What is the value of x ? $(3x - 2)$ cm

- (a) 7
 - (b) 9
 - (c) 12
 - (d) 29
- 83.** Which of the following does not have a vertex?
- (a) Cube
 - (b) Pyramid
 - (c) Cylinder
 - (d) Cone
- 84.** Anil owns a plot worth Rs. 10,000. He sells it to Mukesh at a profit of 10%. After sometime, Mukesh sells it back to Anil at a loss of 10%, then Anil:
- (a) Loses Rs. 100
 - (b) Loses Rs.900
 - (c) Gains Rs. 100
 - (d) Gains Rs. 1100
- 85.** $xy(z^2 + 1) + z(x^2 + y^2)$ can be factorized as :
- (a) $(xy + z)(yz + x)$
 - (b) $(zx + y)(xy + z)$
 - (c) $(yz + x)(zx + y)$
 - (d) $(x^2 + y^2)(z + x)$
- 86.** The length of rectangle R is 10% more than the side of square S. the width of the rectangle is 10% less than the side of the square. The ratio of the areas, R : S, is :
- (a) 99 : 100
 - (b) 101 : 100
 - (c) 1 : 1
 - (d) 199 : 200

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87. The difference between a discount of 40 % and two successive discounts of 36% and 4% for Rs. 10,000 is :
- (a) Rs.0
 - (b) Rs.144
 - (c) Rs.256
 - (d) Rs.400
88. A man is 5 years older than his wife and the wife is now three as old as their daughter, who is 10 years old. How old was the man when his daughter was born?
- (a) 20 years
 - (b) 35 years
 - (c) 25 year
 - (d) 30 year
89. The ratio of number of males to number of females in a club is 7 : 4. If there are 84 males in the club, then the total numbers of members in the club are
- (a) 126
 - (b) 132
 - (c) 136
 - (d) 148
90. Multiply $a^3 - b^3 - 3a^2b + 3ab^2$ by $a^2 + b^2 - 2ab$
- (a) $a^5 - 5a^4b^2 + 10a^3b^2 - 10a^2b^3 - 5ab^4 + b^5$
 - (b) $a^5 - 5a^4b^2 + 10a^3b^2 + 10a^2b^3 + 5ab^4 - b^5$
 - (c) $a^5 - 5a^4b + 10a^3b^2 + 10a^2b^3 + 5ab^4 - b^5$
 - (d) $a^5 - 5a^4b^2 + 10a^3b - 10a^2b^3 + 5ab^4 - b^5$

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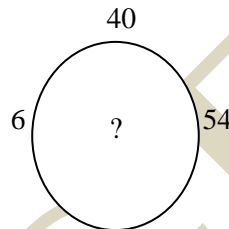
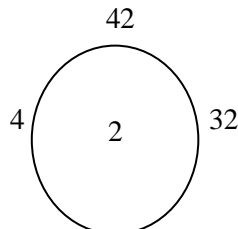
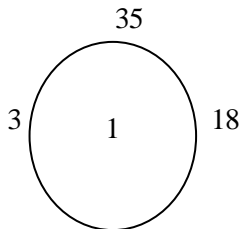
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PART II
SECTION – E: MENTAL ABILITY

This section contains **25 Multiple Choice Questions**. Each question has four choices (a), (b), (c) and (d) out of which **ONLY ONE** is correct.

91. Find the number which replaces the question marks.



- (a) 0
- (b) 1
- (c) 3
- (d) 5

92. If '+' means 'X', '-' means '÷', '÷' means '+' and 'x' means '-', then what will be the value of $16 \div 64 - 4 \times 4 \cdot 3$?

- (a) 20
- (b) 15
- (c) 52
- (d) 12

93. If $15 \times 20 \times 60 = 20 \times 60 \times 15$ and $21 \times 42 \times 63 = 42 \times 63 \times 21$ then $19 \times 17 \times 41 = ?$

- (a) $17 \times 19 \times 41$
- (b) $17 \times 41 \times 19$
- (c) $19 \times 41 \times 17$
- (d) $41 \times 19 \times 17$

94. A circular park of 20 metre diameter has a circular path just inside the boundary of width 1 metre. The area of the path is (in sq. m) _____.

- (a) 15π
- (b) 17π
- (c) 19π
- (d) 25π

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95. 40 % of ? + 180 = 564. What is the value of (?) ?

- (a) 960
- (b) 860
- (c) 950
- (d) 850

96. When $a = 1$ and $b = -2$, then find the value of $2a^2b + 2ab^2 + 3ab$.

- (a) -12
- (b) -2
- (c) -4
- (d) -14

97. A triangle has _____ medians.

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

98. If the digit '4' and '8' signs '+' and '-' are interchanged then which one of the four equations would be correct?

- (a) $4 + 8 - 12 = 16$
- (b) $4 - 8 + 12 = 0$
- (c) $8 + 4 - 12 = 24$
- (d) $8 - 4 + 12 = 8$

99. Jennifer wants to run 3 km. The track she runs on is $\frac{1}{4}$ of a km in length. How many times does Jennifer have to run the length of the track to run a total of 3 km?

- (a) $\frac{3}{4}$
- (b) $3\frac{1}{4}$
- (c) 7
- (d) 12

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100. The bottom, side and front areas of a rectangular box are known. The product of these areas is equal to _____.

- (a) The volume of the box
- (b) The square root of the volume
- (c) Twice the volume
- (d) The square of the volume

101. P can do a piece of work in 9 days. Q is 50 % more efficient than P. The number of days it takes Q to do the same piece of work is _____.

- (a) $13\frac{1}{2}$
- (b) $4\frac{1}{2}$
- (c) 6
- (d) 3

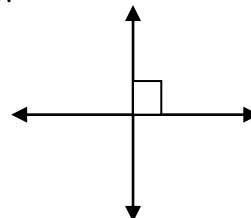
102. In the product shown, here B is digit. The value of B is _____.

- (a) 3
- (b) 5
- (c) 6
- (d) 8

$$\begin{array}{r} B2 \\ \times 7B \\ \hline 6396 \end{array}$$

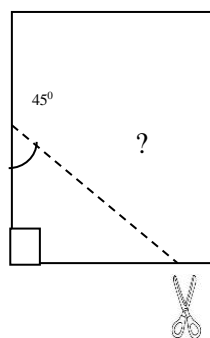
103. Which of the following is best described in the given figure?

- (a) Acute angles
- (b) Obtuse angles
- (c) Parallel lines
- (d) Perpendicular lines



104. Nina made a triangle by cutting the corner of a sheet of paper. One angle is 45° . What is the measure of the third angle of Nina's triangle?

- (a) 30°
- (b) 45°
- (c) 55°
- (d) 60°



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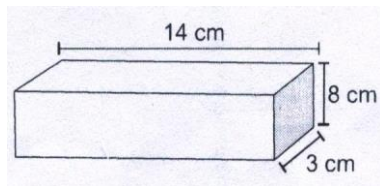
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105. The value of $4\frac{3}{4} - 2\frac{1}{2} =$

- (a) $1\frac{1}{4}$
- (b) $1\frac{3}{4}$
- (c) $2\frac{1}{4}$
- (d) $2\frac{3}{4}$

106. This rectangular prism has a length of 14 cm, a height of 8 cm, and a width of 3 cm. What is the volume?

- (a) 25 cu cm
- (b) 42 cu cm
- (c) 112 cu cm
- (d) 336 cu cm



107. Which expression represents the product of n and 25?

- (a) $25n$
- (b) $25 - n$
- (c) $25 + n$
- (d) $25 \div n$

108. What is the factorization of 45?

- (a) $2^3 \times 5$
- (b) $3^2 \times 5$
- (c) $5^2 \times 3$
- (d) $5^2 \times 9$

109. The value of $11.3 \times 2.7 =$

- (a) 29.31
- (b) 29.51
- (c) 30.31
- (d) 30.51

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- 110.** Mohit gains 60 paise on Rs 60. His gain percent is ____.
- (a) 1%
(b) 0.1%
(c) 2%
(d) 1.1%
- 111.** Kartik can throw a ball $50\frac{3}{5}$ metres high. Ayan can throw the same ball $48\frac{1}{3}$ metres high. How much farther can Kartik throw the ball than Ayan?
- (a) $2\frac{2}{15}m$
(b) $2\frac{4}{15}m$
(c) $2\frac{3}{5}m$
(d) $2\frac{4}{5}m$
- 112.** In a parking lot, 1 out of every 8 cars is blue. What percent of the cars in this lot are blue?
- (a) 1.25%
(b) 7%
(c) 9%
(d) 12.5%
- 113.** A duck flew at 18 km per hour for 3 hours, then at 15 km per hour for 2 hours. How far did the duck fly in all? $\left(Speed = \frac{Distance}{Time} \right)$
- (a) 69 km
(b) 75 km
(c) 81 km
(d) 84 km

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DIRECTION: - This question is based on letter series in which some of the letters are missing. The missing letters are given in the proper sequence in one of the alternatives among the four given under each question. Find out the correct alternatives for each question.

114. ___ab___a___bb___ab___a___

- (a) abaaba
- (b) babbba
- (c) aabbab
- (d) bbaabb

115. Complete the number series

1, 2, 4, 8, (?), 32.

- (a) 10
- (b) 12
- (c) 14
- (d) 1

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SECTION – F: REASONING

This section contains **20 Multiple Choice Questions**. Each question has four choices (a), (b), (c) and (d) out of which **ONLY ONE** is correct.

- 116.** If 'finger' is called 'toe', 'toe' is called 'foot', 'foot' is called 'thumb', 'thumb' is called ankle, 'ankle' is called 'palm' and 'palm' is called 'knee', which one finger has different name?
- (a) Thumb
 - (b) Ankle
 - (c) Knee
 - (d) Palm
- 117.** In a certain code, OVER is written as \$ # % * and VIST is written as # + X -, then how SORE will be written in that code?
- (a) X \$ * %
 - (b) % X \$ *
 - (c) X * \$ %
 - (d) None of these
- 118.** Find the odd one
- (a) Pen
 - (b) Pencil
 - (c) Ball pen
 - (d) Eraser
- 119.** 5, 9, 17, 29, 45,?
- (a) 60
 - (b) 65
 - (c) 70
 - (d) 68
- 120.** BEH, KNQ, TWZ,?.....
- (a) IJL
 - (b) CFI
 - (c) BDF
 - (d) ADG

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121. 5, 7, 10, 15, 22,?.....
- (a) 33
 - (b) 25
 - (c) 27
 - (d) 29
122. How many such 5s are there in the following number sequence which are immediately preceded by 7 but not immediately followed by 9?
- 2 5 9 7 5 2 1 4 7 5 9 3 1 7 5 2 8 7 5 9 4 7 5
- (a) One
 - (b) Two
 - (c) Three
 - (d) Four
123. Pointing to a woman in the photograph, a man says, "This woman is the wife of the father of my brother-in-law. How is the woman related to the man?"
- (a) Mother
 - (b) Mother-in-law
 - (c) Sister
 - (d) Sister-in-law
124. A boy rode his bicycle Northwards, then turned left and rode 1 km and again turned left and rode 2 km. He found himself exactly 1 km West of his starting point. How far did he ride Northwards initially?
- (a) 1 km
 - (b) 2 km
 - (c) 3 km
 - (d) 5 km
125. Ravi is 7th ranks ahead of Sumit in a class of 39. If Sumit's rank is 17th from the last, what is Ravi's rank from the top?
- (a) 14th
 - (b) 12th
 - (c) 16th
 - (d) 11th

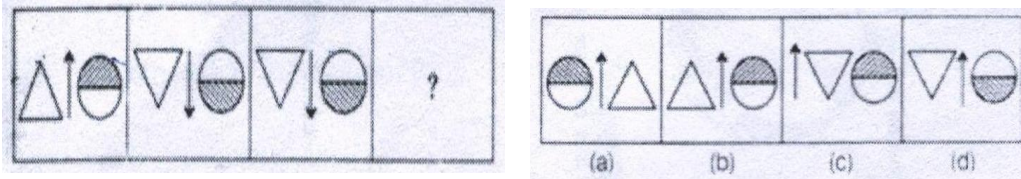
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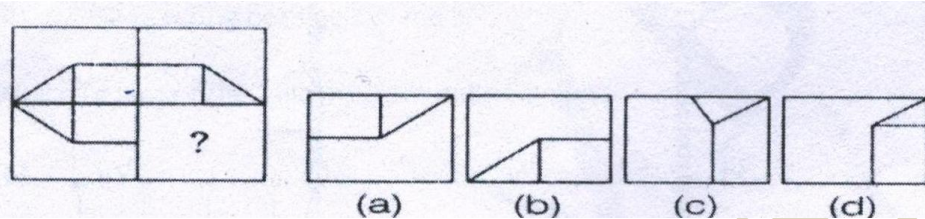
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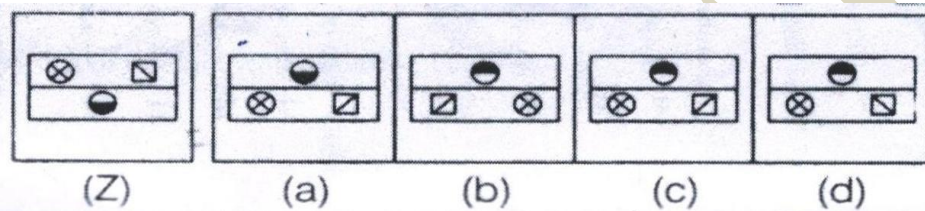
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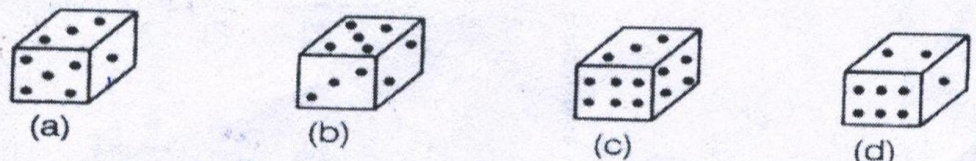
127.



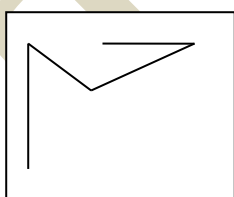
128. Choose the correct water image



129. Which one of the following figures is correct, if total number of dots on opposite faces of a dice always remains 7?

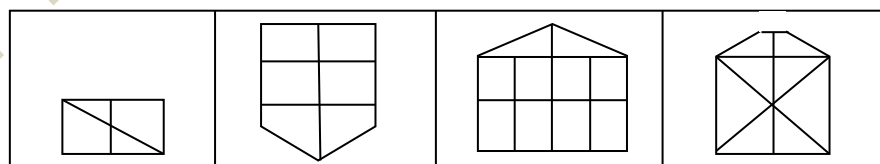


130. In the question given below, a figure (X) followed by four figures (a), (b) (c) and (d) such that (X) is embedded in one of them. Trace out the correct alternative.



(X)

Answer Figure



(a)

(b)

(c)

(d)

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DIRECTIONS FOR Q.131 TO 135:- Study the following sitting arrangement carefully and answer the given questions. P, Q, R, S, T, U, V and W are sitting around the circle and are facing the centre.

- (1) P is second to the right of T who is the neighbor of R and V.
- (2) S is not the neighbor of P.
- (3) V is the neighbor of U.
- (4) W is sitting between U and S.

131. Which of two of the following are not neighbors?

- (a) RV
- (b) UV
- (c) RP
- (d) QS

132. Who is an immediate right of V?

- (a) P
- (b) U
- (c) R
- (d) T





133. Which of the following statement is correct?

- (a) P is the immediate right of Q
- (b) R is between U and V
- (c) S is to immediate left of W
- (d) U is between W and S

134. Rectangle: Square : : Ellipse : ?

- (a) Centre
- (b) Diameter
- (c) Circle
- (d) Radius

135. Complete the series:    ?

- (a) 
- (b) 
- (c) 
- (d) 

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ANSWER KEYS
(FOR CLASS VIII NTTSE)

Part - I		Physics		Q. (1-15)		Part-II	Mental Ability & Reasoning		Q.(91-135)
		Chemistry		Q. (15-30)					
		Biology		Q.(31-45)					
		Mathematics		Q.(46-90)					
1.	A	30.	B	59.	C	88.	C	117.	A
2.	A	31.	A	60	B	89.	B	118.	D
3.	C	32.	A	61.	C	90.	C	119.	B
4.	A	33.	B	62	C	91.	B	120.	B
5.	A	34.	B	63.	C	92.	A	121.	A
6.	C	35.	D	64.	D	93.	B	122.	C
7.	D	36.	B	65.	B	94.	C	123.	B
8.	C	37.	B	66.	A	95.	A	124.	B
9.	A	38.	A	67.	B	96.	B	125.	C
10.	D	39.	A	68.	A	97.	C	126.	B
11.	A	40.	B	69.	C	98.	A	127.	A
12.	C	41.	D	70.	C	99.	D	128.	C
13.	B	42	A	71.	D	100.	D	129.	A
14.	A	43.	D	72.	C	101.	C	130.	D
15.	C	44.	D	73.	C	102.	D	131.	A
16	C	45.	A	74.	B	103.	D	132.	D
17.	B	46.	B	75.	B	104.	B	133.	C
18.	D	47.	C	76.	A	105.	C	134.	C
19.	D	48.	C	77.	D	106.	D	135.	A
20.	A	49.	C	78.	C	107.	A		
21.	C	50	D	79.	B	108.	B		
22.	D	51.	B	80	D	109	D		
23.	C	52.	C	81.	B	110.	A		
24.	D	53.	D	82.	A	111.	B		
25.	C	54.	D	83.	C	112.	D		
26.	B	55.	D	84.	D	113.	D		
27.	B	56.	C	85.	C	114.	A		
28.	D	57.	A	86.	A	115.	D		
29.	A	58.	A	87.	B	116.	B		

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