

## Reso-NET SAMPLE TEST PAPER

### FOR STUDENTS MOVING IN CLASS-X (WINNER) IN 2019-20

Time : 1½ Hr.

Max. Marks : 210

#### GENERAL INSTRUCTIONS

1. Question paper contains 70 questions of Mathematics (1 to 25), Physics (26 to 35), Chemistry (36 to 45), Biology (46 to 55) & Mental Ability (56 to 70), each question carry 3 mark.
2. Blank papers, clip boards, log tables, slide rule, calculators, mobile or any other electronic gadgets in any form is not allowed.
3. Write your Name and Roll No. in the space provided in the bottom of this booklet.
4. Before answering the paper, fill up the required details in the blank space provided in the answer sheet.
5. Do not forget to mention your roll number neatly and clearly in the blank space provided in the answer sheet.
6. There is no negative marks for wrong answer.
7. No rough sheets will be provided by the invigilators. All the rough work is to be done in the blank space provided in the question paper.
8. In case of any dispute, the answer filled in the OMR sheet available with the institute shall be final.

#### **MARKING CRITERIA**

No. of Questions	Type	Marks		
		Correct	Incorrect	Blank
1-70	Only one correct	Q. No. 1 to 70 (3 Mark each)	<b>NO NEGATIVE MARKS</b>	0

### **IMPORTANT**

#### **PROCEDURE OF FILLING UP THE ANSWERS IN OMR SHEET**

##### Wrong Filling

- A  B  C  D    Tick mark  
 A  B  C  D    Cross mark  
 A  B  C  D    Half filled or semi dark  
 A  B  C  D    Light filled

##### Right Filling

- A  B  C  D    Fully darken with HB Pencil  
 A  B  C  D    Fully darken with HB Pencil  
 A  B  C  D    Fully darken with HB Pencil  
 A  B  C  D    Fully darken with HB Pencil

Name : \_\_\_\_\_ Roll No. : \_\_\_\_\_

#### **PCCP Head Office**

**Address :** Plot No. A-51 [A], IPIA, Near Resonance CG Tower,  
 Behind City Mall, Jhalawar Road, Kota (Rajasthan)-324005

**Contact. No. :** 0744-2777769

**Website :** www.pccp.resonance.ac.in **E-mail :** pccp@resonance.ac.in



# Syllabus of Class-IX\_Reso NET

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## MATHEMATICS

- ❖ NUMBER SYSTEMS
- ❖ POLYNOMIALS
- ❖ LINES AND ANGLES
- ❖ CONGRUENCY OF TRIANGLE
- ❖ COORDINATE GEOMETRY
- ❖ HERON'S FORMULA
- ❖ LINEAR EQUATION IN TWO VARIABLES
- ❖ QUADRILATERAL
- ❖ AREA OF PARALLELOGRAM TRIANGLE
- ❖ TRIANGLE
- ❖ CIRCLE
- ❖ SURFACE AREA AND VOLUME
- ❖ STATISTICS
- ❖ PROBABILITY

## PHYSICS

- ❖ MOTION
- ❖ FORCE AND NEWTON'S LAWS
- ❖ GRAVITATION
- ❖ FLUID
- ❖ WORK, ENERGY AND POWER
- ❖ WAVE MOTION AND SOUND

## CHEMISTRY

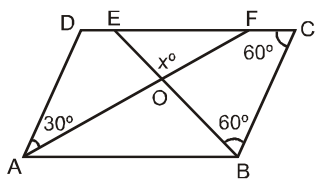
- ❖ MATTER IN OUR SURROUNDINGS
- ❖ IS MATTER AROUND US PURE
- ❖ ATOMS AND MOLECULES
- ❖ STRUCTURE OF ATOM

## BIOLOGY

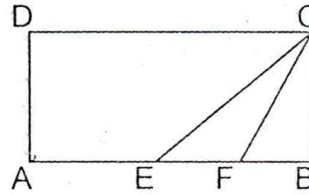
- ❖ FUNDAMENTAL UNIT OF LIFE
- ❖ TISSUE
- ❖ IMPROVEMENT IN FOOD RESOURCES
- ❖ DIVERSITY OF LIVING ORGANISM
- ❖ WHY DO WE FALL ILL
- ❖ NATURAL RESOURCES

## MENTAL ABILITY

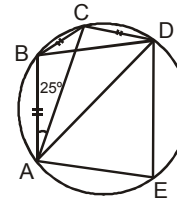
- ❖ *LETTER REPEATING SERIES*
- ❖ *CODING\_DECODING*
- ❖ *SERIES COMPLETION*
- ❖ *MATHEMATICAL OPERATIONS*
- ❖ *DIRECTION SENSE TEST*
- ❖ *SITTING ARRANGEMENT*
- ❖ *PUZZLE TEST*
- ❖ *VENN DIAGRAM*
- ❖ *SYLLOGISM*
- ❖ *DAY,DATE AND TIME*
- ❖ *DICE TEST*
- ❖ *CUBE TEST*
- ❖ *NON-VERBAL SERIES*
- ❖ *ANALOGY*
- ❖ *NON-VERBAL CLASSIFICATION*

1. The simplest rationalisation factor of  $\sqrt{50}$  is:  
 (A)  $5\sqrt{2}$  (B)  $\sqrt{2}$  (C) 50 (D)  $\sqrt{50}$
2. The coefficient of  $x^2$  in  $(3x^2 - 5)(4 + 4x^2)$  is :  
 (A) 12 (B) 5 (C) -8 (D) 8
3. If one angle of triangle is equal to the sum of the other two then triangle is :  
 (A) acute triangle (B) obtuse triangle (C) right triangle (D) none
4. If the three altitudes of a  $\Delta$  are equal then triangle is :  
 (A) isosceles (B) equilateral (C) right angled (D) none
5. The abscissa of a point is distance of that point from :  
 (A) X-axis (B) Y-axis (C) Origin (D) None of these
6. If the sides of a triangle are doubled, then its area :  
 (A) Remains the same (B) Becomes doubled (C) Becomes three times (D) Becomes four times
7. If  $\frac{3x+6}{8} - \frac{11x-8}{24} + \frac{x}{3} = \frac{3x}{4} - \frac{x+7}{24}$ , then the value of x is  
 (A)  $x = 1$  (B)  $x = 2$  (C)  $x = 3$  (D)  $x = 4$
8. In the adjoining figure ABCD is a parallelogram, then the measure of x is :  
  
 (A)  $45^\circ$  (B)  $60^\circ$  (C)  $90^\circ$  (D)  $135^\circ$

9. In the diagram ABCD is a rectangle with  $AE = EF = FB$ , the ratio of the areas of triangle CEF and that of rectangle ABCD is



- (A) 1 : 6 (B) 1 : 8  
 (C) 1 : 9 (D) 1 : 10
10. In a  $\Delta$  PRS,  $\angle PRS = 120^\circ$ . A point Q is taken on PR such that  $PQ = QS$  and  $QR = RS$  then  $\angle QPS = \dots\dots$   
 (A)  $15^\circ$  (B)  $30^\circ$   
 (C)  $45^\circ$  (D)  $12^\circ$
11. In the given figure,  $AB = BC = CD$ , If  $\angle BAC = 25^\circ$ , then value of  $\angle AED$  is :



- (A)  $50^\circ$  (B)  $60^\circ$   
 (C)  $65^\circ$  (D)  $75^\circ$
12. A cone and a cylinder have the same base area. They also have the same curved surface area. If the height of the cylinder is 3m, then the slant height of the cone (in m) is :  
 (A) 3 (B) 4 (C) 6 (D) 7
13. The relation between mean, mode and median is  
 (A)  $\text{Mode} = 3 \times \text{Mean} - 2 \times \text{Median}$   
 (B)  $\text{Mode} = 3 \times \text{Median} - 2 \times \text{Mean}$   
 (C)  $\text{Mean} = 3 \times \text{Median} - 2 \times \text{Mode}$   
 (D)  $\text{Median} = 3 \times \text{Mean} - 2 \times \text{Mode}$

(Space For Rough Work)

14. A number is selected from numbers 1 to 27. The probability that it is prime is :

(A)  $\frac{2}{3}$  (B)  $\frac{1}{6}$   
(C)  $\frac{1}{3}$  (D)  $\frac{2}{9}$

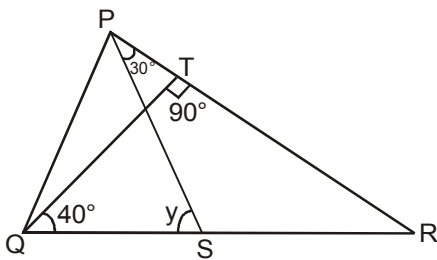
15. When the repeating decimal 0.45454545..... is written in simplest fractional form, the sum of the numerator and denominator is :

(A) 5 (B) 11  
(C) 55 (D) 16

16. If  $x + \frac{1}{x} = 3$ , then the value of  $x^6 + \frac{1}{x^6}$  is :

(A) 927 (B) 114  
(C) 364 (D) 322

17. In figure, if  $QT \perp PR$ ,  $\angle TQR = 40^\circ$  and  $\angle SPR = 30^\circ$ , then  $y$  is



(A)  $70^\circ$  (B)  $110^\circ$   
(C)  $90^\circ$  (D)  $80^\circ$

18. If D is any point on the side BC of a  $\Delta ABC$ , then :

(A)  $AB + BC + CA > 2AD$   
(B)  $AB + BC + CA < 2AD$   
(C)  $AB + BC + CA > 3AD$   
(D) None

19. The points (-5,2) and (2,-5) lie in the :

(A) same quadrants  
(B) II and III quadrants respectively  
(C) II and IV quadrants respectively  
(D) IV and III quadrants respectively

20. A triangle and a parallelogram have the same base and same area. If the sides of the triangle are 15 cm, 14 cm and 13 cm and the parallelogram stand on the base 15 cm, find the height of the parallelogram.

(A) 5 cm (B) 5.6 cm  
(C) 6 cm (D) 6.2 cm

21. Line  $x + y = 2$  passes through the \_\_\_\_ quadrants.

(A) 1<sup>st</sup> and 3<sup>rd</sup> both (B) 2<sup>nd</sup> and 3<sup>rd</sup> both  
(C) 3<sup>rd</sup> and 4<sup>th</sup> both (D) 1<sup>st</sup>, 2<sup>nd</sup>, 4<sup>th</sup>

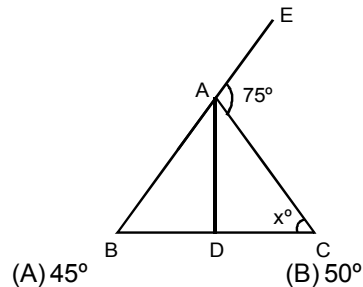
22. ABCD is a rhombus and P, Q, R, S are respectively mid points of sides AB, BC, CD, DA. Then  $\angle RSP$  is :

(A)  $120^\circ$  (B)  $90^\circ$   
(C)  $60^\circ$  (D)  $30^\circ$

23. The area of figure formed by joining the mid points of the adjacent sides of a rhombus with diagonals 12 cm and 16 cm is

(A)  $48 \text{ cm}^2$  (B)  $64 \text{ cm}^2$   
(C)  $96 \text{ cm}^2$  (D)  $192 \text{ cm}^2$

24. In the adjoining figure,  $AD = BD = AC$ ;  $\angle CAE = 75^\circ$  and  $\angle ACD = x^\circ$ . Then the value of  $x$  is :



(A)  $45^\circ$  (B)  $50^\circ$   
(C)  $60^\circ$  (D)  $37\frac{1}{2}^\circ$

(Space For Rough Work)

25. In  $a^2 - b^2$  trials of a random experiment, if an event A happens  $a + b$  times then the probability of happening of event A is given by :
- (A)  $a - b$  (B)  $\frac{1}{a + b}$   
 (C)  $a + b$  (D)  $\frac{1}{a - b}$
26. If a trolley starts from rest with an acceleration of  $2 \text{ m/s}^2$ , the velocity of the body after 4s would be :
- (A) 2 m/s (B) 8 m/s  
 (C) 4 m/s (D) 6 m/s
27. Match the following with correct response.  
**Column - I**  
 (1) Cause of acceleration  
 (2) Quantitative measure of inertia  
 (3) powder applied on carom board  
 (4) Tyres of vehicles made Rough  
**Column - II**  
 (A) Mass  
 (B) Increases friction  
 (C) Decreases friction  
 (D) Force  
 (A) 1-D, 2-A, 3-C, 4-B  
 (B) 1-B, 2-D, 3-A, 4-C  
 (C) 1-A, 2-C, 3-B, 4-D  
 (D) 1-C, 2-B, 3-D, 4-A
28. If initially the distance between two bodies is  $r$  and their masses be  $M_1$  and  $M_2$  then the force of gravitation be  $F$ . If this distance is increased to two times then the force would become :
- (A)  $\frac{F}{4}$  (B)  $\frac{F}{2}$   
 (C)  $2F$  (D)  $4F$
29. Atmospheric pressure is measured by :
- (A) Barometer (B) manometer  
 (C) screw gauge (D) none of these
30. Ten litre of water per second is lifted from a well through 10 m and delivered with a velocity of  $10 \text{ ms}^{-1}$ . If  $g = 10 \text{ ms}^{-2}$ , then the power of motor is:  
 (A) 1kW (B) 1.5kW  
 (C) 2kW (D) 2.5kW
31. In the region of compression in longitudinal wave, the density of the medium :  
 (A) Increases (B) Decreases  
 (C) Remains same (D) None of these
32. A train passes over a 800 m long bridge. If the speed of the train is 36 m/s and the train takes 28 s to cross the bridge, the length of the train is :  
 (A) 200 m (B) 600 m  
 (C) 800 m (D) 208 m
33. As we go deeper beneath the surface of a liquid, the pressure :  
 (A) remains same  
 (B) increases  
 (C) decreases  
 (D) depends on weather
34. 1 kilowatt hr. = .....  
 (A)  $10.6 \times 10^6$  Joule (B)  $3.6 \times 10^6$  Joule  
 (C)  $30.6 \times 10^6$  Joule (D)  $3.6 \times 10^5$  Joule
35. A sound wave has a frequency of 1000 Hz and a wavelength of 35 cm. How long will it take to travel 1 km :  
 (A) 3.20 s (B) 2.86 s  
 (C) 5.94 s (D) 3.10 s
36. Which of the following is not a state of matter ?  
 (A) Solid (B) Liquid  
 (C) Gas (D) Boiling point
37. Two miscible liquids can be separated by distillation when there is a large difference in their -  
 (A) melting points (B) boiling points  
 (C) volatile nature (D) valence electrons
38. In an atom the shell which has a maximum two electrons is -  
 (A) first shell (B) second shell  
 (C) third shell (D) fourth shell

(Space For Rough Work)

39. Rutherford scattering experiment is related to the size of the -  
 (A) nucleons (B) electron  
 (C) atom (D) nucleus
40. The substance which does sublime on heating is -  
 (A) potassium chloride (B) HCl  
 (C) iodine (D) CO<sub>2</sub>
41. The process of obtaining pure crystals of copper sulphate from copper sulphate solution is known as -  
 (A) crystallisation (B) galvanisation  
 (C) rusting (D) None of these
42. How many grams of methanol (CH<sub>3</sub>OH) must be added to 2 moles of H<sub>2</sub>O to make a solution containing equal numbers of molecules of H<sub>2</sub>O and CH<sub>3</sub>OH ?  
 (A) 2g (B) 10g  
 (C) 32 g (D) 64 g
43. The orbits in an atom are numbered by -  
 (A) 100, 200, 300 .....  
 (B) 10, 20, 30 .....  
 (C) 1, 2, 3, 4 .....  
 (D) 5, 10, 15 .....
44. How many moles of electrons weigh one kilogram ?  
 (A)  $6.022 \times 10^{23}$  (B)  $\frac{1}{91.108} \times 10^{31}$   
 (C)  $\frac{6.022}{9.108} \times 10^{54}$  (D)  $\frac{1}{9.108 \times 6.022} \times 10^8$
45. The protons and neutrons are collectively called-  
 (A) deuterons (B) positrons  
 (C) mesons (D) nucleons.
46. Mammalian liver cells will swell when kept in -  
 (A) Hypertonic solution  
 (B) Hypotonic solution  
 (C) isotonic solution  
 (D) isothermal solution
47. Living mechanical tissue is -  
 (A) Parenchyma (B) Collenchyma  
 (C) Sclerenchyma (D) Chlorenchyma
48. The proper care and management of animals include their -  
 (A) Feeding (B) Heeding  
 (C) Breeding (D) All of the above
49. Planaria is kept in which group ?  
 (A) Coelenterata (B) Platyhelminthes  
 (C) Nematoda (D) Annelida
50. Disease transmitted by dog is-  
 (A) Plague (B) T.B  
 (C) Scurvy (D) Rabies
51. Which one of these is plant residue ?  
 (A) Pesticides (B) Fertilizers  
 (C) Biogases (D) Dung
52. Which cell organelle is known as "Power house of the cell" ?  
 (A) Mitochondria (B) Lysosome  
 (C) Golgi apparatus (D) Endoplasmic reticulum
53. The muscles found connected to the bones are -  
 (A) Striated muscle  
 (B) unstriated muscles  
 (C) Cardiac muscle  
 (D) All of the above
54. Which is not a macronutrients ?  
 (A) Carbon (B) Hydrogen  
 (C) Oxygen (D) Zinc
55. Three kingdom classification was proposed by  
 (A) Linnaeus (B) Haeckel  
 (C) Whittaker (D) Lamarck

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(Space For Rough Work)

**Directions : (56)** Which sequence of letters when placed at the blanks one after the other will complete the given letter series ?

56. a \_ cdaab \_ cc \_ daa \_ bbb \_ cdddd  
 (A) bdbda (B) bddca  
 (C) bbcad (D) bbdac

57. If SUPER = 79, SUPREME = 97, LABOUR = ?  
 (A) 79 (B) 69  
 (C) 89 (D) 49

**Direction : (58)** Find the missing terms.

58. 512, 64, 16, 8, 8, 16, ?  
 (A) 16 (B) 32  
 (C) 40 (D) 64

59. If **x** stands for 'add', **y** stands for 'subtract', **z** stands for 'divide', and **p** stands for 'multiply,' then what is the value of  $(7 \text{ p } 3) \text{ y } 6 \text{ x } 5 = ?$   
 (A) 10 (B) 12  
 (C) 15 (D) 20

60. A man is facing North-West. He turns  $90^\circ$  in the clockwise direction and then  $135^\circ$  in the anticlockwise direction. Which direction is he facing now ?  
 (A) East (B) West  
 (C) North (D) South

**Directions : (61)** Five persons are sitting in a row. One of the two persons at the extreme ends is intelligent and other one is fair. A fat person is sitting to the right of a weak person. A tall person is to the left of the fair person and the weak person is sitting between the intelligent and the fat person.

61. Tall person is at which place counting from right?  
 (A) First (B) Second  
 (C) Third (D) Fourth

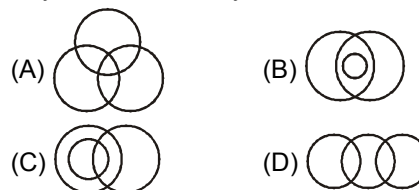
**Direction : (62)** Read following information carefully and answer the questions given below it :

- (i) A and B are good in Biology & Chemistry.
- (ii) A & C are good in Biology & Physics.
- (iii) C, D & E are good in Physics & History.
- (iv) C & E are good in Physics & Mathematics.
- (v) D & B are good in Chemistry & History.

62. Who is good in Physics, History & Mathematics but not in Biology ?  
 (A) D (B) C  
 (C) A (D) E

**Directions : (63)** Select the diagram that best represents the given relationship.

63. Boys, Students, Players



**Directions (64)** : In each question below are given two statements followed by two conclusions numbered I and II. You have to take the given two statements to be true even if they seem to be at variance from commonly known facts. Read the conclusion and then decide which of the given conclusions logically follows from the two given statements, disregarding commonly known facts.

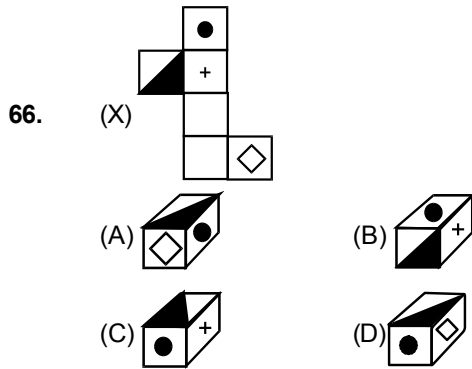
- Give answer  
 (A) if only conclusion I follows  
 (B) if only conclusion II follows  
 (C) both conclusion I or II follows  
 (D) if neither conclusion I nor II follows

64. Statements: All men are dogs. All dogs are cats.  
 Conclusions :I. All men are cats.  
 II. All cats are men.

65. There are 30 days in a month and 1st day of this month is Monday. If each second Monday and each Sunday is a holiday then how many working days are there in this month ?  
 (A) 23 (B) 24  
 (C) 25 (D) 26

(Space For Rough Work)

Direction : (66) Choose from the alternatives, the boxes that will be formed when figure (X) is folded:-

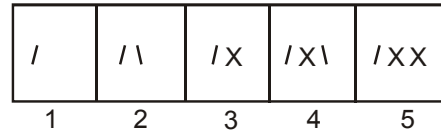


Directions : (67) A cube painted red on two adjacent faces and black on the faces opposite to the red faces and green on the remaining faces is cut into 64 smaller cubes of equal size.

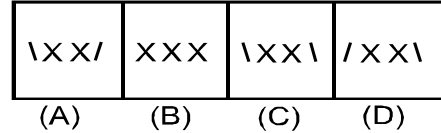
67. How many cubes have no face painted ?  
 (A) 0 (B) 4  
 (C) 8 (D) 16

Directions : (68) In the following question consists of five figures marked 1, 2, 3, 4 and 5. These figures form a series. Find out the one from the answer figures that will continue the series.

68.



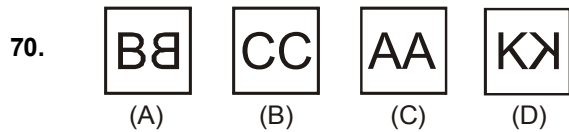
Answer Figure



Directions : (69) In the following questions choose the missing word in place of sign ? On the basis of the relationship between the words given on the left right side of sign ::

69. 3 : 24 :: 5 : ?  
 (A) 120 (B) 45  
 (C) 124 (D) 27

Directions : (70) Out of the five figures (A), (B), (C), (D) given in problem, three are similar in a certain way. However, one figure is not like the other three. Choose the figure which is different from the rest.



## ANSWER KEY

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

(Space For Rough Work)