

**SAMPLE TEST PAPER**

**» » » RESO FAST « « «**

**CLASS - X/WINNER**

## Reso-FAST SAMPLE TEST PAPER

### FOR STUDENTS STUDYING IN CLASS-IX IN 2017-18

**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. :** 8824078330

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



# Syllabus of Reso FAST

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## Physics :

- ❖ Motion
- ❖ Force and newton's laws
- ❖ Gravitation

## Chemistry :

- ❖ Matter in our surroundings
- ❖ Is matter around us pure

## Biology :

- ❖ Fundamental unit of life
- ❖ Tissue
- ❖ Improvement in food resources

## Mathematics :

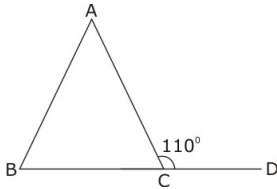
- ❖ Number system
- ❖ Polynomials
- ❖ Coordinate geometry
- ❖ Lines and angles
- ❖ Congruent triangles
- ❖ Heron's formula

## Mental Ability :

- ❖ Number-series
- ❖ Alphabet-series
- ❖ Missing term in figures
- ❖ Coding-Decoding
- ❖ Direction sense test
- ❖ Seating arrangement
- ❖ Puzzle test
- ❖ Syllogism
- ❖ Calendar test
- ❖ Dice test

1. Which of the following is incorrect?  
 (A) Euclid fifth postulate imply the existence of parallel lines.  
 (B) Two points are always collinear.  
 (C) Two lines perpendicular to the same line are parallel to each other.  
 (D) None of these.

2. In the given figure  $AB = AC$  and  $\angle ACD = 110^\circ$ , then the value of  $\angle A$  is



- (A)  $20^\circ$ .  
 (B)  $30^\circ$ .  
 (C)  $40^\circ$ .  
 (D)  $50^\circ$ .
3. Choose the rational number which does not lie between rational numbers  $-\frac{2}{5}$  and  $-\frac{1}{5}$

- (A)  $-\frac{1}{4}$   
 (B)  $-\frac{3}{10}$   
 (C)  $\frac{3}{10}$   
 (D)  $-\frac{7}{20}$

4.  $x$  and  $x + y$  are the square of two consecutive natural number. What is the square of the next natural number ?

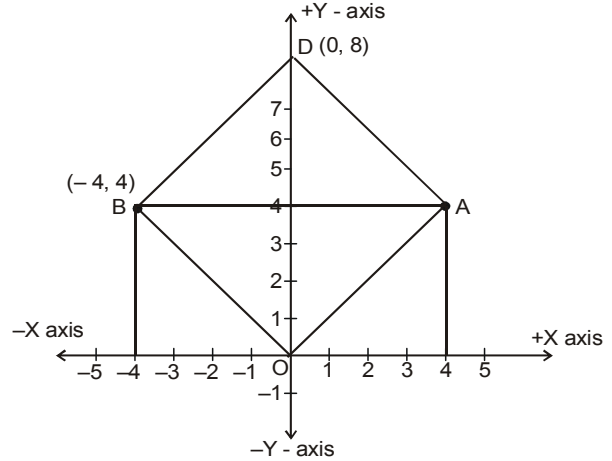
- (A)  $x + 2y$   
 (B)  $x + 2y + 2$   
 (C)  $x + 3y$   
 (D)  $x + y^2$

5. The lengths of the sides of a triangle are 5 cm, 12 cm and 13 cm. The length of the perpendicular drawn from the opposite vertex to the side whose length is 13 cm, is (in cm)

- (A)  $\frac{60}{13}$  cm  
 (B)  $\frac{40}{3}$  cm  
 (C)  $\frac{12}{5}$  cm  
 (D)  $\frac{2}{5}$  cm

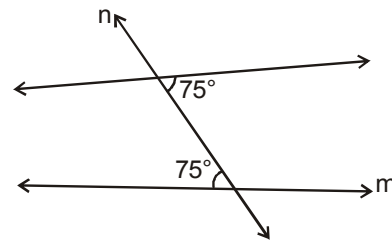
6. If  $8^{x-1} = 2^{x+3}$ , value of  $x$  will be  
 (A) 2  
 (B) 4  
 (C) 1  
 (D) 3

7. If AOBD is a square then find the coordinates of point A.



- (A)  $(4, 4\sqrt{2})$   
 (B)  $(4, 4)$   
 (C)  $(4\sqrt{2}, 4)$   
 (D) None of these

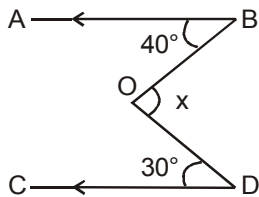
8. Given two lines  $\ell$  and  $m$ , these lines :



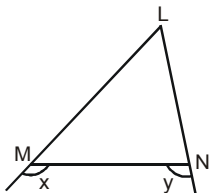
- (A) Will intersect on left side of line  $n$   
 (B) Will intersect on right side of line  $n$   
 (C) are parallel  
 (D) None of these

(Space For Rough Work)

9. In the given figure,  $AB \parallel CD$ ,  $\angle ABO = 40^\circ$  and  $\angle CDO = 30^\circ$ . If  $\angle DOB = x^\circ$ , then the value of  $x$  is :



- (A) 35 (B) 110  
(C) 70 (D) 140
10. A man born in the first half of the 19th century was  $x$  years old in the year  $x^2$ . He was born in:  
(A) 1849 (B) 1806  
(C) 1812 (D) 1825
11. In the given figure,  $x > y$ . Hence



- (A)  $LM = LN$   
(B)  $LM < LN$   
(C)  $LM > LN$   
(D) None of these
12. If 'm' and 'n' are natural numbers such that  $\sqrt{7 + \sqrt{48}} = \sqrt{m} + \sqrt{n}$  then  $m^2 + n^2$  equals :  
(A) 25 (B) 37  
(C) 29 (D) 41

13. If  $N = \frac{\sqrt{\sqrt{5}+2} + \sqrt{\sqrt{5}-2}}{\sqrt{\sqrt{5}+1}} - \sqrt{3-2\sqrt{2}}$

then the value of  $N$  is :

- (A)  $2\sqrt{2} - 1$  (B) 2  
(C) 1 (D)  $\sqrt{5} - \sqrt{2}$
14. Which is the greatest number amongst  $2^{1/2}$ ,  $3^{1/3}$ ,  $8^{1/8}$  and  $9^{1/9}$ ?  
(A)  $9^{1/9}$  (B)  $8^{1/8}$   
(C)  $3^{1/3}$  (D)  $2^{1/2}$
15. What is the remainder when the polynomial  $p(x) = x^{200} - 2x^{199} + x^{50} - 2x^{49} + x^2 + x + 1$  is divided by  $(x-1)(x-2)$ ?  
(A) 1 (B) 7  
(C)  $2x + 1$  (D)  $6x - 5$

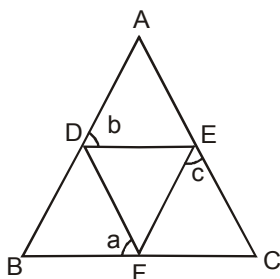
16. If  $\frac{p}{a} + \frac{q}{b} + \frac{r}{c} = 1$  and  $\frac{a}{p} + \frac{b}{q} + \frac{c}{r} = 0$  then the

value of  $\frac{p^2}{a^2} + \frac{q^2}{b^2} + \frac{r^2}{c^2}$  is :

- (A) 0 (B) -11  
(C) 9 (D) 1
17. If  $x, y$  are positive real numbers satisfying the system of equations  $x^2 + y\sqrt{xy} = 336$ ,  
 $y^2 + x\sqrt{xy} = 112$ , then  $x + y$  equals  
(A)  $\sqrt{448}$  (B)  $\sqrt{224}$   
(C) 20 (D) 40
18.  $x$  and  $y$  are real numbers such that  $7^x - 16y = 0$  and  $4^x - 49y = 0$ , then the value of  $(y-x)$  is  
(A)  $\frac{5}{2}$  (B)  $\frac{19}{5}$   
(C)  $\frac{4115}{2013}$  (D)  $\frac{1569}{784}$

(Space For Rough Work)

19. In the adjoining figure  $AB = AC$  and  $DEF$  is an equilateral triangle. Then



- (A)  $a + b + c = 180^\circ$       (B)  $a + b = 2c$   
 (C)  $a = \frac{b+c}{2}$       (D)  $a + c = 2b$
20. The number of squares on a coordinate plane with one vertex at  $A(-2, 2)$  and at least one of the coordinate axes as axis of symmetry of the square is  
 (A) 3      (B) 5  
 (C) 6      (D) 7
21. P is a point inside an equilateral triangle of side 2010 units. The sum of the lengths of the perpendiculars drawn from P to the sides is equal to :  
 (A) 2010      (B)  $2010\sqrt{3}$   
 (C)  $1005\sqrt{3}$       (D)  $\frac{2010}{\sqrt{3}}$
22. In  $\triangle ADE$ ,  $\angle ADE = 140^\circ$ . B and C are points on AD and AE respectively. A, B, C, D, E are all distinct. If  $AB = BC = CD = DE$  then  $\angle EAD$  is equal to  
 (A)  $10^\circ$       (B)  $20^\circ$   
 (C)  $70^\circ$       (D) None of these

23. Find the value of

$$\left(1 - \frac{1}{2^2}\right) \left(1 - \frac{1}{3^2}\right) \left(1 - \frac{1}{4^2}\right) \dots \left(1 - \frac{1}{2007^2}\right)$$

- (A)  $\frac{2008}{2007}$       (B)  $\frac{1004}{2007}$   
 (C)  $\frac{2007}{2008}$       (D) 1
24. Equilateral triangles I, II, III and IV are such that the altitude of triangle I is the side of triangle II, the altitude of triangle II is the side of triangle III and the altitude of the triangle III is the side of triangle IV. If the area of triangle I is  $2 \text{ cm}^2$ , then the area (in  $\text{cm}^2$ ) of triangle IV is :  
 (A)  $\frac{\sqrt{3}}{2}$       (B)  $\frac{9}{16}$   
 (C)  $\frac{27}{32}$       (D)  $\frac{45}{64}$
25. Each of sides of a triangle is 8 cm less than the sum of its other two sides. Area of the triangle (in  $\text{cm}^2$ ) is  
 (A) 8      (B)  $8\sqrt{3}$   
 (C) 16      (D)  $16\sqrt{3}$
26. The unit of change in momentum is :  
 (A)  $N \times s$       (B)  $N/s$   
 (C)  $N$       (D)  $\frac{\text{kg} \cdot \text{xs}}{\text{m}}$
27. If a force is conservative :  
 (A) work is path independent  
 (B) it will be central  
 (C) potential energy remains constant  
 (D) none of these

(Space For Rough Work)

28. A body goes from A to B with a velocity of 20 m/s and comes back from B to A with a velocity of 30 m/s. The average velocity of the body during the whole journey is :  
 (A) Zero (B) 24 m/s  
 (C) 25 m/s (D) None of these
29. The value of  $g$  on earth surface is  $9.8 \text{ m/s}^2$ , then the value of  $g$  at earth's centre in  $\text{m/sec}^2$  is :  
 (A) 9.8 (B) 19.6  
 (C) 4.9 (D) zero
30. The weight of a boy on the surface of moon is 300 N. The weight of this boy on the surface of earth is :  
 (A) 300 N (B) 5 N  
 (C) 50 N (D) 1800 N
31. A body is thrown up with an initial velocity  $u$  and covers a maximum height of  $h$ , then  $h$  is equal to :  
 (A)  $\frac{u^2}{2g}$  (B)  $\frac{u}{2g}$   
 (C)  $2ug$  (D) None of these
32. The value of  $g$  on moon is  $1/6$  th of the value of  $g$  on earth. A man can jump 1.5 m high on the earth. He can jump on the moon upto a height of :  
 (A) 9 m (B) 7.5 m  
 (C) 6 m (D) 4.5 m
33. Weightlessness experienced while orbitting in a space ship is the result of :  
 (A) Inertia (B) Zero gravity  
 (C) Centre of gravity (D) Acceleration
34. Two blocks, one of iron (i) and the other of wood (w) are dropped from a height at the same time. If the time taken by the blocks to reach the ground is  $T_i$  and  $T_w$  respectively, then :  
 (A)  $T_i < T_w$  (B)  $T_i = T_w$   
 (C)  $T_i > T_w$  (D)  $T_i = 1/2 T_w$
35. When a space ship is at a distance of two earth's radius from the centre of the earth, the gravitational acceleration is :  
 (A)  $19.6 \text{ ms}^{-2}$  (B)  $9.8 \text{ ms}^{-2}$   
 (C)  $4.9 \text{ m/s}^2$  (D)  $2.45 \text{ ms}^{-2}$
36. Which of the following plastic is a thermosetting plastic ?  
 (A) PVC (B) Polystyrene  
 (C) Polyethylene (D) Bakelite
37. Name the fibre which is used for making swimming costumes  
 (A) Polyester (B) Spandex  
 (C) Rayon (D) Acrylic
38. Zinc react with sodium hydroxide to form  
 (A) Sodium oxide (B) Sodium zincate  
 (C) Zinc oxide (D) No reaction
39. Phosphorus is burnt in air, it react with oxygen of air to form  
 (A) PO (B)  $\text{P}_4\text{O}_8$   
 (C)  $\text{P}_4\text{O}_4$  (D)  $\text{P}_2\text{O}_5$
40. Crude oil doesn't have  
 (A) Paraffins (B) Olefins  
 (C) Napthalenes (D) Aromatics
41. The gas present in CBM  
 (A) Methane (B) Ethane  
 (C) Propane (D) Butane
42. Identify the incorrect statement in the process of burning of a candle  
 (A) Wax liquid, solid and vapour all burn  
 (B) When a candle wick is lit, the heat produced from the flame melts the wax  
 (C) The wick soaks or absorbs the molten wax  
 (D) The heat of the flame vapourizes the molten wax in the wick.

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(Space For Rough Work)

43. Colloids which is not possible  
 (A) Gas in liquid (B) Liquid in liquid  
 (C) Solid in solid (D) Gas in Gas
44. Water gas comprises  
 (A) Carbondioxide and methane  
 (B) Nitrogen and oxygen  
 (C) Water vapour and oxygen  
 (D) Carbon monoxide and hydrogen
45. Which one is not a green house gas  
 (A) Carbondioxide (B) Water vapour  
 (C) Hydrogen (D) Aerosols
46. The endomembrane system of the cell includes  
 (A) mitochondria. (B) plastids.  
 (C) nucleus. (D) ER
47. The membrane bound structures of the golgi apparatus are called  
 (A) plastids. (B) vacuoles.  
 (C) cisternae. (D) ribosomes
48. The fluid content of the vacuoles is called  
 (A) water. (B) cell sap.  
 (C) cytoplasm. (D) nucleoplasm.
49. Chromosomes are made of:  
 (A) DNA only  
 (B) DNA and fats  
 (C) DNA and proteins  
 (D) DNA and carbohydrates
50. Part of body which is not exclusively supplied with involuntary muscles  
 (A) muscular coats of blood vessels.  
 (B) muscles of the ducts of glands.  
 (C) muscles of iris.  
 (D) muscles of urethra.
51. Mast cells secrete  
 (A) histidine. (B) histamine.  
 (C) antibodies. (D) troponin
52. Protein present in the matrix of cartilage is known as  
 (A) chondrin (B) chitin.  
 (C) cellulase. (D) casein.
53. Plants take up nitrogen in the form of  
 (A) free nitrogen.  
 (B) molecular nitrogen.  
 (C) amino acids.  
 (D) nitrates and nitrites.
54. The most common species of honey bee maintained for collecting honey and wax is  
 (A) *Apis dorsata*. (B) *Apis florum*.  
 (C) *Apis indica*. (D) *Apis mellifera*
55. The practice concerned with the improvement of animals is  
 (A) poultry.  
 (B) animal husbandry.  
 (C) bee keeping.  
 (D) fishery.

**Direction : (56 to 59) Find the missing terms.**

56. 7, 19, 55, 163, \_  
 (A) 387 (B) 329  
 (C) 527 (D) 487
57. 5, 3, 6, 2, 7, 1, ?  
 (A) 0 (B) 2  
 (C) 8 (D) 4
58. ZGL, XHN, VIQ, TJU, ?  
 (A) RKX (B) RKY  
 (C) RLZ (D) RKZ

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(Space For Rough Work)



	4	2	
5	80	99	8
1	63	?	6
	7	7	

59.

- (A) 169 (B) 168  
(C) 85 (D) 706

**Direction : (60)** Which sequence of letters when placed at the blanks one after the other will complete the given letter series ?

60. a - b a a - a a - - a b  
(A) a a a a (B) b a a a  
(C) b b a a (D) a b b a
61. If **MERCHANT** is **NDSBIZOS**, then **CANCER** is  
(A) BZMBDQ (B) BBMBDQ  
(C) DBODFS (D) DZOBFQ
62. **DRAMA** is coded as **37** and **STAGE** as **52**. How will you code **ACTOR** ?  
(A) 56 (B) 50  
(C) 57 (D) 67
63. If the alphabets were written in the reverse order, which letter will be the fifth letter to the left of the fourteenth letter from the left.  
(A) R (B) I  
(C) S (D) H
64. How many pairs of letters are there in the word, '**EXPERIENCED**' which have as many letters between them in the word as in alphabet ?  
(A) One (B) There  
(C) Four (D) More than four
65. Which interchange of signs will make the following equation true ?  
 $12 - 3 \times 2 \div 18 + 6 = 9$   
(A)  $\div, -$  (B)  $\div, +$   
(C)  $\times, -$  (D)  $+, -$

66. Pointing to a person, Rohit said to Neha, "His mother is the only daughter of your father. "How is Neha related to that person ?  
(A) Aunt (B) Mother  
(C) Daughter (D) Wife

**Direction : (67)** 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.
67. Who is good in Physics, History & Mathematics but not in Biology ?  
(A) D (B) C  
(C) A (D) E

**Direction : (68)** Study the given information and answer the questions that following.

- (i) P, Q, R, S, T, U and V are sitting in a row facing East.  
(ii) R is on the immediate right of S.  
(iii) Q is at left extreme and has T as his immediate neighbour.  
(iv) V is exactly between T and U.  
(v) S is sitting third from the South end.
68. Who is sitting to the immediate right of T ?  
(A) P (B) V  
(C) S (D) U
69. In a queue of boys Sohan is **9th** from the back. Ramesh's place is **8th** from the front. Radhey is standing in between the two. What could be the minimum number of boys standing in the queue?  
(A) 8 (B) 10  
(C) 12 (D) 14
70. A man starts from his house and walks 3 km. towards South, then he turns left and walks 5 km. In which direction he is from his house ?  
(A) South (B) East  
(C) South East (D) North

## ANSWER KEY

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