

### Super Scholar 2018 Class IX Sample Questions

1. Which of the following processes require heating?

- (i) Fusion  
(ii) Condensation  
(iii) Vaporisation  
(iv) Solidification

- A. (i) & (ii)      B. (ii) & (iii)      C. (i) & (iii)      D. All of these

2. If the humidity in the air increase then the rate of evaporation

- A. decrease      B. increase  
C. remain same      D. both (b) and (a) depending upon the temperature

3. A solution contains 50 ml of ethyl alcohol mixed with 150 ml of water. Calculate the concentration of solution

- A. 25%      B. 50%      C. 75%      D. 60%

4. Which one of the following pairs of compounds illustrates the law of multiple proportion ?

- A.  $H_2O$ ,  $Na_2O$       B.  $MgO$ ,  $Na_2O$       C.  $Na_2O$ ,  $BaO$       D.  $SnCl_2$ ,  $SnCl_4$

5. What is the molecular formula for Calcium Hydroxide?

- A.  $Ca(OH)_2$       B.  $CaOH$       C.  $Ca_2OH$       D.  $CaH_2$

6. Read the given statements and mark the correct option.

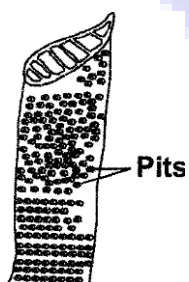
- Statement 1 : Isobars are identical in chemical properties.  
Statement 2 : Isobars have same atomic number

- A. Both statements 1 and 2 are true and statement 2 is the correct explanation of statement 1  
B. Both statements 1 and 2 are true but statement 2 is not the correct explanation of statement 1  
C. Statement 1 is true and statement 2 is false  
D. Both statements 1 and 2 are false

7.  $^{20}_{10}Ne$  and  $^{22}_{10}Ne$  are

- A. Isotopes      B. Isobars      C. Isotones      D. Both a) and b)

8. Which of the following is the vacuolar membrane of the cell?
- A. Cell membrane      B. Tonoplast      C. ER      D. Nuclear membrane
9. The cell walls of the adjacent cells are joined together by a jelly like substance made up of calcium and magnesium pectate. This is called
- A. Microfibril      B. Middle lamella      C. Plasmodesmata      D. Plasmalemma
10. Identify the tubular structure shown in the given figure which is formed by a row of cells placed end to end and serves as a conducting tissue



- A. Tracheid      B. Vessel  
C. Xylem parenchyma      D. Phloem parenchyma
11. All the following divisions given in column I relate to specific example given in column II. Match column I and II and select the correct answer from the codes given below.

Column I	Column II
(a) Thallophyta	(i) Marsilea
(b) Bryophyta	(ii) Pinus
(c) Pteridophyta	(iii) Ulothrix
(d) Gymnospermae	(iv) Ficus
(e) Angiospermae	(v) Funaria

A.

a	b	c	d	e
(iii)	(ii)	(i)	(iv)	(v)

B.

a	b	c	d	e
(i)	(ii)	(iii)	(iv)	(v)

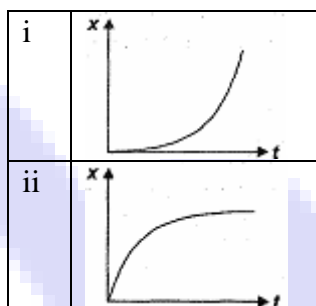
C.

a	b	c	d	e
(i)	(v)	(iii)	(ii)	(iv)

D.

a	b	c	d	e
(iii)	(v)	(i)	(ii)	(iv)

12. Figures (i) and (ii) below show the displacement-time graphs of two particles moving along the x-axis. We can say that



- A. Both the particles are having a uniformly accelerated motion
- B. Both the particles are having a uniformly retarded motion
- C. Particle (i) is having a uniformly accelerated motion while particle (ii) is having a uniformly retarded motion
- D. Particle (i) is having a uniformly retarded motion while particle (ii) is having a uniformly accelerated motion

13. Which of the following is the position time graph for a body at rest?



14. A hammer weighing 2.5 kg moving with a speed of 1 m/s strikes the head of the nail driving it 10 cm into the wall. The acceleration during impact and the impulse imparted to wall will be respectively

- A.  $-5 \text{ m/s}^2$ , 2.5 Ns
- B.  $-10 \text{ m/s}^2$ , 5 Ns
- C.  $-7.5 \text{ m/s}^2$ , 3.5 Ns
- D. None of these

15. If the initial velocity is zero then the force acting is

- A. Retarding
- B. Acceleration
- C. Both
- D. None

16. A coil of wire of cross-section  $0.75 \text{ mm}^2$  weighs 125 g in air and 115 g in water. The length of the coil in cm is

- A.  $\frac{10^2}{0.75} \text{ cm}$
- B.  $\frac{10^5}{0.75} \text{ cm}$
- C.  $\frac{10^5}{75} \text{ cm}$
- D.  $\frac{10^3}{75} \text{ cm}$

17. Use this chart to answer questions. If you visited Mars, each day would seem

Planet	Period of Revolution Around the Sun (in Earth Time)	Period of Rotation on Its Axis (in Earth Time)
Mercury	88 days	59 days
Venus	225 days	243 days
Earth	385 days	24 hrs
Mars	687 days	24 hrs 37 min
Jupiter	11.9 year	9hrs50 min
Saturn	29.5 year	10 hrs 40 min
Uranus	84 years	11 hrs
Neptune	164 years	16 hrs
Pluto	248 years	6 days 9 hrs

- A.** Longer than an Earth year  
**B.** Shorter than an Earth day  
**C.** About the same as an Earth year  
**D.** About the same as an Earth day
18. A body of mass 2 kg is thrown up vertically with a kinetic energy of 490 J. If the acceleration due to gravity is  $9.8 \text{ ms}^{-2}$ , the height at which the kinetic energy of the body becomes half of the original value is
- A.** 50m                      **B.** 25m                      **C.** 12.5m                      **D.** 10 m
19. A shrill sound has a \_\_\_\_\_ pitch and dull sound has a \_\_\_\_\_ pitch
- A.** High, low                      **B.** Low, high                      **C.** Low, low                      **D.** High, high
20. In compression, pressure density is
- A.** High                                      **B.** Less  
**C.** Remains same                      **D.** May be a) or b) depending upon disturbance

21. Which of the following pairs are incorrectly matched?

(i) Measles	Viral disease
(ii) Anthrax	Fungal disease
(iii) Cholera	Bacterial disease
(iv) Malaria	Protozoan disease
(v) Ringworm	Worm disease
(vi) Sleeping sickness	Viral disease

- A. (i), (iii) & (iv)      B. (i), (iii) & (v)      C. (ii), (v) & (vi)      D. (ii), (iv) & (vi)

22. Main constituent of atmosphere of mars is

- A. O<sub>2</sub>      B. CO<sub>2</sub>      C. Ozone gas      D. none

23. Water vapours changes into water droplets by

- A. condensation      B. evaporation      C. sublimation      D. none

24. Prior to sowing of crop seeds, these plants are grown and then mulched by ploughing them into the soil. Which of the following statements is not correct about them?

- A. These plants turn into a kind of manure called vermicompost  
 B. These include sunnhemp, guar, Berseem etc  
 C. These plants help in enriching the soil in nitrogen and potassium  
 D. Both (A) & (C)

25. Some species of fishes can be cultured in a single fish pond. These fishes do not compete for food as they have different food habits. In the following columns fishes are matched according to their food habits. Select the incorrect match

- A. Labeorohita - Column feeder      B. Catlacatla - Surface feeder  
 C. Cirrhinusmrigala - Bottom feeder      D. Common carp - Surface feeder

26. Two irrational numbers between  $\sqrt{2}$  and  $\sqrt{3}$  are \_\_\_\_\_.

- A.  $2^{\frac{1}{2}}, 6^{\frac{1}{4}}$       B.  $3^{\frac{1}{4}}, 3^{\frac{1}{6}}$       C.  $6^{\frac{1}{8}}, 3^{\frac{1}{4}}$       D.  $3^{\frac{1}{2}}, 3^{\frac{1}{8}}$

27. The numerator of  $\frac{a + \sqrt{a^2 - b^2}}{a - \sqrt{a^2 - b^2}} + \frac{a - \sqrt{a^2 - b^2}}{a + \sqrt{a^2 - b^2}}$  is \_\_\_\_\_.

- A.  $a^2$                       B.  $b^2$                       C.  $a^2 - b^2$                       D.  $\frac{4a^2 - 2b^2}{b^2}$

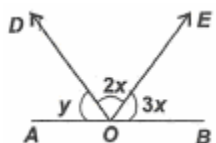
28. The sum of the x-coordinates of the intersection of  $x^2 + y^2 = 36$  and  $x^2 - y^2 = 6$ , is \_\_\_\_\_.

- A.  $-2\sqrt{21}$                       B. 0                      C.  $2\sqrt{15}$                       D.  $2\sqrt{21}$

29. If  $2x = t + \sqrt{t^2 + 4}$  and  $3y = t - \sqrt{t^2 + 4}$ , then value of y when  $x = 2/3$ , is \_\_\_\_\_.

- A. -2                      B. 1                      C. -1                      D. 2

30. In the figure  $y = 30^\circ$ , then  $\angle DOE$  is \_\_\_\_\_.

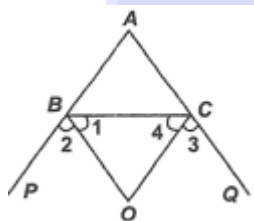


- A.  $90^\circ$                       B.  $30^\circ$                       C.  $60^\circ$                       D.  $150^\circ$

31. The axis on which the point (0, -4) lie, is \_\_\_\_\_.

- A. Positive x – axis                      B. Negative x – axis                      C. Positive y – axis                      D. Negative y – axis

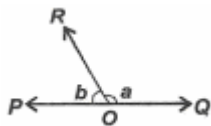
32. In the given figure, BO, CO are angle bisectors of external angles of  $\triangle ABC$ . Then  $\angle BOC$  is \_\_\_\_\_.



- A.  $90^\circ - \frac{1}{2} \angle A$                       B.  $90^\circ + \frac{1}{2} \angle A$                       C.  $180^\circ - \frac{1}{2} \angle A$                       D.  $180^\circ + \frac{1}{2} \angle A$

In the figure  $\angle POR, \angle QOR$  form a linear pair and

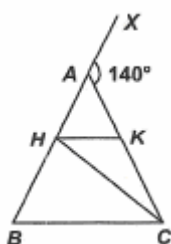
33.  $a - b = 40^\circ$ . Then  $a, b$  respectively are \_\_\_\_\_.



- A.  $110^\circ, 70^\circ$       B.  $70^\circ, 100^\circ$       C.  $80^\circ, 120^\circ$       D.  $120^\circ, 80^\circ$

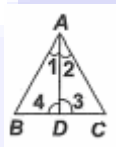
In the figure  $AB = AC, CH = CB$  and  $HK \parallel BC$ . If the exterior angle  $CAX$  is  $140^\circ$ , then the angle  $KHC$  is \_\_\_\_\_.

34. \_\_\_\_\_.



- A.  $45^\circ$       B.  $55^\circ$       C.  $50^\circ$       D.  $40^\circ$

35. In the figure,  $AD$  is the bisector of  $\angle A$  of  $\triangle ABC$ , then \_\_\_\_\_.



- A.  $AB > BD$       B.  $AB = BD$       C.  $AB < BD$       D.  $AB = 2BD$

36. If the altitude of an equilateral triangle is  $\sqrt{6}$  cm, its area is \_\_\_\_\_.

- A.  $2\sqrt{3}cm^2$       B.  $2\sqrt{2}cm^2$       C.  $3\sqrt{3}cm^2$       D.  $6\sqrt{2}cm^2$

37. The length of canvas 1.2 m wide required to build a conical tent of height 14 m and also on the floor of floor area  $346.5 \text{ m}^2$ , is \_\_\_\_\_.

- A. 665 m                      B. 770 m                      C. 490 m                      D. 860 m

38. Algebraic sum of the deviation of a set of values of a data from their mean is \_\_\_\_\_.

- A.  $> 0$                       B.  $= 0$                       C.  $< 0$                       D.  $\geq 0$

39. In a class test, in mathematics, 10 students scored 75 marks, 12 students scored 60 marks, 8 scored 40 marks and 3 scored 30 marks. The mean of their score is (approximately) \_\_\_\_\_.

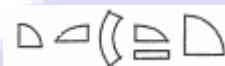
- A. 57 marks                      B. 56 marks                      C. 15 marks                      D. 54 mark

40. In the given figure a square sheet of paper has been folded and punched as shown. How would the paper look like when unfolded?



- A.                       B.                       C.                       D. 

41. Which figure can be made from the following paper cut-outs?



- A.                       B.                       C.                       D. 

42. Choose the correct alternative that will continue the same pattern.  
6, 11, 21, 36, 56, ( .....)

- A. 42                      B. 51                      C. 81                      D. 91

43. Kabir buys an article with 25% discount on its marked price. He makes a profit of 10% by selling it at Rs.660. The marked price is \_\_\_\_\_.

- A. Rs.600                      B. Rs.700                      C. Rs.800                      D. Rs.685



44. Tea worth Rs.126 per kg and Rs.135 per kg are mixed with a third variety in the ratio 1: 1: 2. If the mixture is worth Rs.153 per kg, the price of the third variety per kg will be
- A. Rs.169.50                      B. Rs.170                      C. Rs.175.50                      D. Rs.180
45. A, B, and C enter into partnership by making investments in the ratio 3: 5: 7. After a year, C invests another Rs337600 while A withdrew Rs.45600. The ratio of investments then changes to 24 : 59 : 167. How much did A invest intially?
- A. Rs. 45600                      B. Rs.96000                      C. Rs.141600                      D. None of these
46. In each of the following questions, there is a series. One term of the series is wrong. Find out the wrong term from four alternatives given below the series.  
4, 10, 22, 31, 40, 49
- A. 10                      B. 22                      C. 40                      D. 49
47. In each of the questions given below, there is a series with one or more terms/ letters as missing each marked with ‘?’ Choose the correct alternative to replace the mark(s) ‘?’  
Z10H, X15K, V20N, T25Q, ?
- A. S30T                      B. R30T                      C. T30S                      D. T30R
48. In each of the following questions two pairs of sets of letters on either side of the sign “: :” is given, out of which one set in either pair is missing. Sets in each pair are connected in the same way. Identify the correct set which can take place the missing set.  
DQNQR:ALKLO::WOULD:?
- A. TIPRLA                      B. TLIRA                      C. TPRLA                      D. TLRIA
49. In each of the following questions two pairs of numbers on either side of the sign “: :” is given, out of which one number in either pair is missing. Numbers in each pair are connected in the same way. Identify the correct number which can take place the missing number.  
66571 :19834::57904:?
- A. 12345                      B. 67899                      C. 23519                      D. 74680
50. Choose the odd numeral group in each of the following questions.
- A. 8-2                      B. 1-1                      C. 27-3                      D. 62-4
51. In each of the following questions, four set of letters are given of which three are alike in some way, while the rest one is different. Choose out the odd one.
- A. B d f H                      B. E g i K                      C. Q s u W                      D. T v x Y

52. If 'ball' is called 'no ball'. 'no ball' is called 'bat'. 'bat' is called 'cricketer'. 'cricketer' is called 'stump'. 'stump' is called 'wide'. then who will play the cricket?
- A. ball                      B. no ball                      C. stump                      D. wide
53. In a certain code language, 'yak le di' means 'sky is blue'. 'mok se le' means 'blood is red' and 'mok pi di' means 'sky and blood'. Which code stands for 'blood'?
- A. pi                      B. mok                      C. le                      D. di
54. If 'P + Q' means 'P is the daughter of Q'; 'P - Q' means 'P is the husband of Q' and 'P x Q' means 'P is the brother of Q'. Which of the following is true for A - B + C x D?
- A. A is brother-in-law of C                      B. C is father-in-law of A  
C. B is aunt of D                      D. B is female and D is male
55. If 'P + Q' means P is the brother of Q; P' x Q' means 'P is the father of Q' and 'P - Q' means 'P is the sister of Q', which of the following relations shows that I is the niece of K?
- A.  $K + Y + Z - 1$                       B.  $K + Y \times 1 - Z$                       C.  $Z - 1 \times Y + K$                       D.  $K \times Y + 1 - Z$
56. Seven candidates were present in an interview. No two of them got equal marks. A scored more than B, and G scored more than A. Either D scored the highest and B or F scored the least, or alternately C scored the highest and E got the least. If G ranked fifth, which of the following must be true?
- A. C was ranked second                      B. D was ranked first  
C. E was ranked third                      D. B was ranked fourth
57. Ravi is older than Dinesh but younger than Manav. Dinesh is as old as Paras but older than Mukesh. Then Paras is
- A. Older than Mukesh                      B. Shorter than Dinesh  
C. Older than Manav                      D. Older than Ravi

58. Read the following information carefully.

A word arrangement machine when given an input of words arranges them following a particular rule in each step. Given below are the steps of rearrangement.

Input : Birds are flying in the sky  
 Step I : the Birds are flying in sky  
 Step II : the sky Birds are flying in  
 Step III : the sky in Birds are flying  
 Step IV : the sky in flying Birds are  
 Step IV is the final step.

Answer the following questions as per the rule used in above steps.

Which step out of the following would be “the of is India Delhi capital’ If the input is “Delhi is the capital of India”?

- A. III                      B. IV                      C. V                      D. VI

59. Study the information below carefully.

A number arrangement machine when given an input consisting of numbers arranges the numbers in a particular way until all the numbers are arranged in a specific order. Read the following steps of rearrangements.

Input : 60 54 18 4 12 90  
 Step I : 60 90 54 12 18 48  
 Step II : 60 48 90 18 54 12  
 Step III : 60 12 48 54 90 18  
 Step IV : 60 18 12 90 48 54  
 Step V : 60 54 18 48 12 90

The step V is the final step.

Identify the rule in above steps of rearrangement and hence answer the questions given below.

What will be the final step if the input is given below?

Input : 5                      12                      18                      40                      77                      82

- A. 82 77 40 18 12 5                      B. 5 12 18 40 77 82  
 C. 5 82 12 77 18 40                      D. 5 40 82 18 12 77

60. If North-West is replaced with South, then North is replaced with which of the following directions?

- A. North-West                      B. North-East                      C. South-West                      D. Data inadequate