

Sample Question Paper

Class IX

Total questions 51

Time: 1 hour

Section A - Logical Reasoning

Question 1. Code language of 'JAR' is '87' and 'TAIG' is coded as '148'. How will 'RAUNV' be coded in that language?

Option A: 380

Option B: 370

Option C: 350s

Option D: 390

Question 2. Choose the correct combination of mathematical signs that can replace the * signs and make the equation correct.

$$19 * 12 * 2 * 6 * 120$$

Option A: $\times, \div, =, +$

Option B: $\times, +, -, =$

Option C: $\times, \div, =, -$

Option D: $\times, \div, +, =$

Question 3. If 'P+Q' means P is the sister of Q, 'P \times Q' means P is the mother of Q and 'P \div Q' means P is the father of Q. Which of the following would represent 'M is the grandson of R'?

Option A: $M+R\div S$

Option B: $R\div Q+M$

Option C: $R\div Q\div M$

Option D: $M\div R+Q$

Question 4. Observe the given options that can replace the question mark (?) in the following series.

144, 196, 256, 289, 324?

Option A: 410

Option B: 390

Option C: 380

Option D: 400

Question 5. Choose the letter-cluster from among the given options that can replace the question mark (?) in the following series.

DPN, EPO, FPP, GPQ, ___?

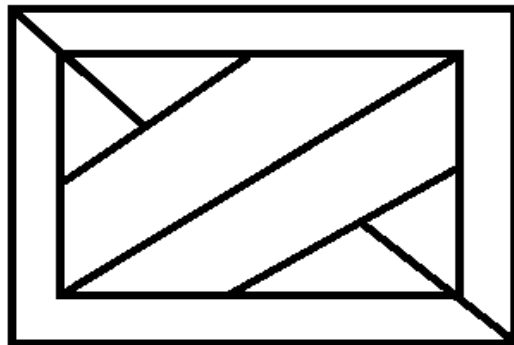
Option A: JPR

Option B: HPR

Option C: OPQ

Option D: CPS

Question 6. Find the number of triangles given in the figure.



Option A: 7

Option B: 8

Option C: 9

Option D: 10

Question 7. Identify the option in which the numbers are related in the same way

(13, 144, 196) are related.

Option A: (11, 144, 196)

Option B: (14, 196, 225)

Option C: (16, 161, 256)

Option D: (17, 256, 324)

Question 8. Amanda walks 40 meters towards the North. She then turns right and walks 60 meters. She again turns right and walks 40 meters. Further she moves 10 meters after turning to the left. How far is she from the starting point?

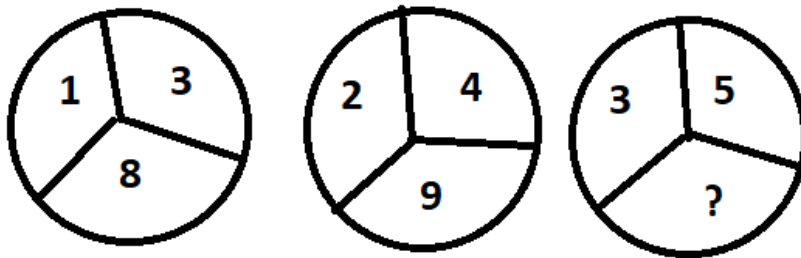
Option A: 80 meters

Option B: 70 meters

Option C: 45 meters

Option D: 77 meters

Question 9. Find the missing number if the same rule is followed:



Option A: 10

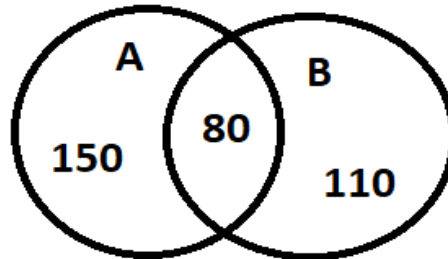
Option B: 11

Option C: 5

Option D: 8

Question 10. According to the survey made among 200 students, 140 students play basketball, 120 students play cricket and 80 play both. How many students play at least one of the sports?

200 students



Option A: 150

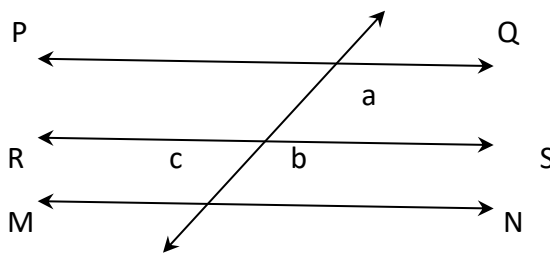
Option B: 180

Option C: 188

Option D: 90

Section B - Mathematical Reasoning

Question 11. In the given figure, PQ is parallel to RS, RS is parallel to MN, and $b:c= 2:3$, then find the value of c.



Option A: 118°

Option B: 180°

Option C: 108°

Option D: 181°

Question 12. In $\triangle XYZ$, if $\angle X=45^\circ$ and $\angle Y=70^\circ$, then the shortest and the largest sides of the triangle are:

Option A: XY, YZ

Option B: YZ, XZ

Option C: XY, XZ

Option D: None of these

Question 13. Find the value of x .

$$2^{2x+4} \times 2^{6x+12} = 64.$$

Option A: $x = \frac{5}{4}$.

Option B: $x = \frac{-10}{4}$.

Option C: $x = \frac{-5}{4}$.

Option D: $x = \frac{-5}{2}$.

Question 14. Which of the following equations satisfies the data given in the table?

x	0	-1	-2	2
y	-4	-1	2	-10

Option A: $3x + 2$

Option B: $y = 3x - 4$

Option C: $y = -3x - 4$

Option D: $y = -4x - 4$

Question 15. A copper sheet 12 m long, 4.5 m wide, and 0.5 m thick is melted into a cube. Find the difference between the surface areas of two solids.

Option A: 70 m^2

Option B: 145 m^2

Option C: 170 m^2

Option D: 75 m^2

Question 16. The following observations have been arranged in ascending order. If the median of the data 5, 12, y , $y+4$, 21, 27 is 15, then the value of $5y-2$ is _____.

Option A: 13

Option B: 14

Option C: 63

Option D: 32

Question 17: M and N are, respectively, the midpoints of the sides PK and PL of triangle PKL and the area of the quadrilateral KMNL is x times the area of triangle PKL. The value of x is

Option A: 2

Option B: $\frac{1}{2}$

Option C: 4

Option D: $\frac{3}{4}$

Question 18. Kylie tossed three coins together. The possible outcomes are no heads, 1 head, 2 heads, and 3 heads. The probability of no heads is _____.

Option A: $\frac{1}{8}$

Option B: $\frac{1}{4}$

Option C: $\frac{1}{5}$

Option D: $\frac{1}{3}$

Question 19. $(m + n)(m - n)(m^2 - mn + n^2)(m^2 + mn + n^2)$ is equal to _____.

Option A: $m^3 - n^3$

Option B: $m^3 + n^3$

Option C: $m^6 + n^6$

Option D: $m^6 - n^6$

Question 20. Two players Oliver and Kayden together scored 900 runs in a cricket match.

(i) Find out the linear equation satisfying the data.

(ii) If Oliver scored 450 runs, then how many runs did Kayden score?

	(i)	(ii)
Option A:	$2x + y = 900$	225
Option B:	$x + y = 900$	450
Option C:	$x + y = 250$	750
Option D:	$x + 2y = 900$	225

Question 21. Let there is a circle which is 26 cm in diameter. If we draw a chord MN of 10cm and a diameter MP from the same point M on the circle, then the perpendicular distance of the chord MN from the center O is _____.

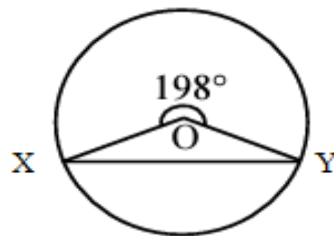
Option A: 5 cm

Option B: 10 cm

Option C: 4 cm

Option D: 12 cm

Question 22. Calculate the $\angle OYX$ in the following figure.



Option A: 8°

Option B: 18°

Option C: 9°

Option D: 10°

Question 23. The value of

$$\frac{2^{x+4} \times 2^{3(x+4)} \times 5^{(4x+8)}}{16^x \times 2^2}$$

Option A: 2^{2x+11}

Option B: 2^{4x+22}

Option C: 2^{x+22}

Option D: 2^{2x+22}

Question 24. The midpoint of the line segment formed by joining the points A (-2, 4) and B (-4,-2) is

Option A: (3, 1)

Option B: (-3, 2)

Option C: (-3, 1)

Option D: (4, -1)

Question 25. If \bar{y} is the mean of $y_1, y_2, \dots, \dots, y_n$, then for $a \neq 0$, the mean of

$$k^2 y_1, k^2 y_2, \dots, \dots, k^2 y_n, \frac{y_1}{k^2}, \frac{y_2}{k^2}, \dots, \dots, \frac{y_n}{k^2} \quad \text{is}$$

Option A: $\frac{y}{2} \left(k^2 + \frac{1}{k^4} \right)$

Option B: $\frac{y}{2} \left(k^2 + \frac{1}{k^2} \right)$

Option C: $y \left(k^2 + \frac{1}{k^2} \right)$

Option D: y

Section C - Science

Question 26. A particle is moving with an initial velocity of 20m/s and reaches a velocity 40m/s within 10 seconds. Find out the acceleration.

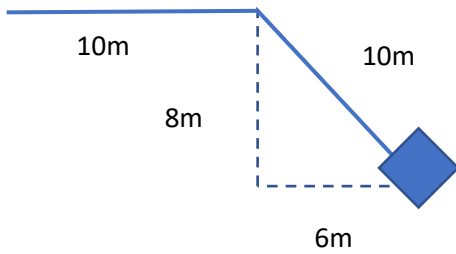
Option A: 3 m/s²

Option B: 2 m/s²

Option C: 6 m/s²

Option D: 7 m/s²

Question 27. An object is moving up a ramp at a constant speed. If the mass of the object is 10 kg what will be the gain in the potential energy of the object considering the surfaces are frictionless. ($g = 10 \text{ m/s}^2$)



Option A: 800 J

Option B: 1,000 J

Option C: 600 J

Option D: 200 J

Question 28. Where the value of g is zero on earth?

Option A: on equator

Option B: on north pole

Option C: on south pole

Option D: on the center of earth

Question 29. A truck and a jeep are moving with the same velocity. When faced with an obstacle at the same time, they both were stopped by applying brakes. If the retardation imposed by the brakes are equal, then choose the correct option:

Option A: Truck will stop first due to the larger mass

Option B: Jeep will stop first due to the smaller mass

Option C: Both will cover same distance before stopping

Option D: As the retardation is equal, the truck will not stop, only the jeep will.

Question 30. Why does a plant cell not burst in a hypotonic solution?

- Option A:** The wall resists bursting from cell
- Option B:** The cell sap is more concentrated
- Option C:** The cell sap is rich in cellulose
- Option D:** The plant cell does not have lysosomes

Question 31. In a movie theaters the roof and the walls are made up of materials which can absorb sound because

- Option A:** It reduces velocity of the sound
- Option B:** It reduces frequency of the sound
- Option C:** It reduces Reverberation of sound
- Option D:** Because it keeps theater insulated

Question 32. Which of the following solutions has the lowest mass by mass percentage?

- Option A:** 5 grams of sodium chloride in 100 grams of water
- Option B:** 10 grams of sugar in 160 grams of water
- Option C:** 30 grams of potassium for magnet in 100 grams of water
- Option D:** 15 grams of sodium carbonate in 45 grams of water

Question 33. Match the following with their respective characteristic:

- | | |
|---------------|--|
| a) Arteries | 1) Infectious disease of lungs |
| b) Neuron | 2) Bones to muscles are joined |
| c) Tendon | 3) Transports oxygenated blood to body |
| d) Bronchitis | 4) Smallest unit of nervous system |

- Option A:** a-3 b-2 c-1 d-4
- Option B:** a-3 b-4 c-1 d-2
- Option C:** a-1 b-2 c-3 d-4
- Option D:** a-3 b-4 c-2 d-1

Question 34. Select the incorrect statements:

Option A: Deficiency of Vitamin C causes Scurvy.

Option B: Deficiency of Vitamin A causes blindness.

Option C: Deficiency of Vitamin D causes loss of muscle density.

Option D: Deficiency of Vitamin E causes a weakened immune system.

Question 35. 'T' is a living tissue whose main function is to store food and nutrients and provide turgidity to the organ which consists of these tissues. Identify 'T' from the options given below:

Option A: Lateral meristem

Option B: Parenchyma

Option C: Sclerenchyma

Option D: Collenchyma

Question 36. The ratio of molecules present in 13.2 g of CO_2 and 6.4 g of SO_2 is

Option A: 4:2

Option B: 2:3

Option C: 3:1

Option D: 4:3

Question 37. Select the correct option in association with the statements given:

Statement 1: Work done by conservative forces is equal to the change in mechanical energy.

Statement 2: Work done by an object moving in uniform velocity is zero.

Statement 3: Work done by external forces is associated with the change in kinetic energy

Option A: All the statements are true.

Option B: Only statements 1 and 2 are true.

Option C: Only statements 1 and 3 are true.

Option D: Only statements 2 and 3 are true.

Question 38. An arrow hits a tree with a velocity of 30m/s and penetrates into it up to a distance of 3cm. Find the retardation of the arrow.

Option A: 12,000 m/s²

Option B: 30,000 m/s²

Option C: 20,000 m/s²

Option D: 15,000 m/s²

Question 39. What would be the recoil velocity of a gun having mass equal to 10 kg, if a bullet of mass 50 gm gains the velocity of 1,000m/s after firing from the gun.

Option A: -5 m/s

Option B: 5 m/s

Option C: -3 m/s

Option D: 3 m/s

Question 40. A ball is dropped from the top of the building 500 m high into a pool which is at the base of the building. When would the splash be heard on the top floor? (Given $g = 10 \text{ m s}^{-2}$ and speed of sound = 340 m s⁻¹.)

Option A: 12 s

Option B: 12.36 s

Option C: 11.47 s

Option D: 11.36 s

Section D - English

Question 41. The rain patted _____ on the roof and it produced a melodious sound.

Option A: greedily

Option B: gently

Option C: heavily

Option D: melancholy

Question 42. Mr. Bean ran into the bull one day while he was _____.

Option A: enchanted

Option B: dislocated

Option C: distracted

Option D: distant

Question 43. Choose the correct SYNONYM of the given word.

INCLINATION

Option A: proposition

Option B: inclination

Option C: declination

Option D: proposal

Question 44. The management was not sure of how to _____ the issue without ruffling a few feathers in the company.

Option A: give

Option B: reach

Option C: tackle

Option D: catch

Question 45. The delegates reached a _____ on the issue based on voting

Option A: referendum

Option B: compromise

Option C: consensus

Option D: configuration

Question 46. The prime minister stood _____ the podium while he addressed the gathering of the general public.

Option A: away

Option B: behind

Option C: up

Option D: on

Question 47. It has been raining heavily since the morning and yet the dam is not even half-full.

Option A: because

Option B: still

Option C: in

Option D: though

Question 48. The _____ had no difficulty coming up the stairs to the stage despite her age.

Option A: anthrogenarian

Option B: octogenarian

Option C: ostrogenarian

Option D: enthrogenarian

Question 49. How do you spell the word that means 'friendly'?

Option A: congenial

Option B: cungeinal

Option C: congial

Option D: congial

Question 50. Aman : Where is the open auditorium?

Amjad : Go straight and then turn left. To your right you _____ the auditorium building.

Option A: you will get

Option B: you will find

Option C: you will have

Option D: see

Section E - Emotional Quotient

Question 51. In an inter-school project, you are paired with a classmate with whom you do not get along with. The teacher does not welcome your suggestion of changing the partner. Tell us about how/ what you will be doing under the given situation.
