



RJ VISION PVT. LTD.

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RJ – CET (2015 – 16)

(Entrance cum Scholarship Test)

COURSE – SAFAL (CLASS 10TH)

(Test Syllabus - Class 9th)

TIME : 1 HR MM : 160

This Booklet contains _____ pages

Important Instructions :

1. The test is of **1 hour** duration and Test Booklet contains **40** questions. Each question carries **4** marks. For each correct response, the candidate will get **4** marks. For each incorrect response, **one mark** will be deducted from the total scores. The maximum marks are **160**.
2. Use **Blue/Black Ball point pen only** for writing particulars on this page/markings responses.
3. Rough work is to be done on the space provided for this purpose in the Test Booklet only.
4. **On completion of the test, the candidate must handover the Answer Sheet to the invigilator in the Room/Hall.**
5. Use of white fluid for correction is **NOT** permissible on the Answer Sheet.
6. Each candidate, must show on demand his/her Admission Card to the Invigilator.
7. No candidate, without special permission of the Superintendent or Invigilator, would leave his/her seat.
8. Use of Electronic/Manual Calculator is prohibited.
9. No part of the Booklet and Answer Sheet shall be detached under any circumstances.
10. The candidates will write the Correct Test Booklet Code as given in the Test Booklet/Answer Sheet Attendance Sheet.

Do not open this Test Booklet until you are asked to do so.

Name of the Candidate (in Capitals) : _____

Roll Number : _____

School : _____

Centre of Examination (in Capitals) (Vasna / Niz / Anand / Others) _____

Candidate's Signature : _____ Invigilator Signature : _____

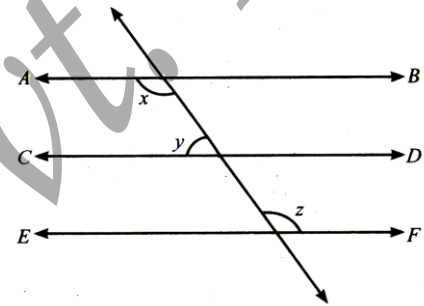
1. Which of the following is a compound?
 - (1) Stainless steel
 - (2) Bronze
 - (3) Graphite
 - (4) Hydrogen sulphide
2. Camphor can be purified by
 - (1) distillation
 - (2) filtration
 - (3) sedimentation
 - (4) sublimation
3. Which of the following has largest number of particles ?
 - (1) 8 g of CH₄
 - (2) 4.4 g of CO₂
 - (3) 34.2 g of C₁₂H₂₂O₁₁
 - (4) 2 g H₂
4. Find the mass of oxygen contained in 1 kg of potassium nitrate (KNO₃)
 - (1) 475.5 g
 - (2) 485.5 g
 - (3) 475.2 g
 - (4) 485.2 g
5. The chemical symbol for barium is
 - (1) B
 - (2) Ba
 - (3) Be
 - (4) Bi
6. Which of the following statements is incorrect for cathode rays ?
 - (1) They move in straight line
 - (2) Their nature depends upon the nature of gas present in the discharge tube.
 - (3) They cast shadow of solid objects placed in their path
 - (4) They get deflected towards positive charge.
7. Aluminium has a valence of 3 and sulphate has valence of 2. Therefore, the correct formula for aluminium sulphate is -
 - (1) Al₂S₂O₄
 - (2) Al₂(SO₄)₃
 - (3) Al₃(SO₄)₂
 - (4) AlSO₄
8. The example of a prokaryotic cell is -
 - (1) blue green algae
 - (2) fungi
 - (3) plants
 - (4) animals
9. The scientist who saw the living cell for the first time was -
 - (1) Leeuwenhoek
 - (2) M.J. Schleiden
 - (3) Kolliker
 - (4) Palade
10. The living cells providing tensile strength are -
 - (1) parenchyma
 - (2) collenchyma
 - (3) sclerenchyma
 - (4) sclerotic cells
11. Parenchyma has -
 - (1) intercellular spaces and uniform thickening
 - (2) deposition on corners
 - (3) deposition on angles
 - (4) deposition in form of bands
12. Bryophytes are characterized by -
 - (1) multicellular jacketed archegonia
 - (2) thalloid body
 - (3) dominant gametophyte and partial parasitic sporophytic
 - (4) all above
13. Which is not a feature of Annelid -
 - (1) Metameric segmentation
 - (2) Nephridia
 - (3) Pseudocoelom
 - (4) Clitellum
14. In contrast to annelids the Platyhelminthes show -
 - (1) Radial symmetry
 - (2) Presence of pseudocoel
 - (3) Bilateral symmetry
 - (4) Absence of body cavity
15. A car accelerates from rest at a constant rate α for some time after which it decelerates at a constant rate β to come to rest. If the total time elapsed is t , the maximum velocity acquired by the car is given by

(1) $\left(\frac{\alpha^2 + \beta^2}{\alpha\beta}\right)t$	(2) $\left(\frac{\alpha^2 - \beta^2}{\alpha\beta}\right)t$
(3) $\left(\frac{\alpha + \beta}{\alpha\beta}\right)t$	(4) $\left(\frac{\alpha\beta}{\alpha + \beta}\right)t$
16. A ball released from a height falls 5 m in one second. In 4 seconds it falls through

(1) 20 m	(2) 1.25 m
(3) 40 m	(4) 80 m

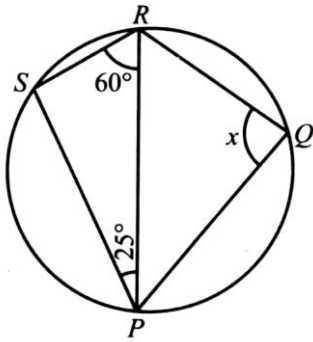
17. If a boat is moving along a constant speed, it may be assumed that
- (1) a net force is pushing it forward
 - (2) the sum of only vertical forces is zero
 - (3) the buoyant force is greater than gravity
 - (4) the sum of all forces is zero
18. A cannon after firing recoils due to
- (1) conservation of energy
 - (2) backward thrust of gases produced
 - (3) Newton's third law of motion
 - (4) Newton's first law of motion
19. A body of mass m accelerates uniformly from rest to v_1 in time t_1 . As a function of t , the instantaneous power delivered to the body is
- (1) $\frac{mv_1 t}{t_2}$
 - (2) $\frac{mv_1 t^2}{t_2}$
 - (3) $\frac{mv_1 t^2}{t_1}$
 - (4) $\frac{mv_1^2 t}{t_1^2}$
20. Two bodies A and B having masses in the ratio of 3 : 1 possess the same kinetic energy. The ratio of linear momentum of B to A is
- (1) 1 : 3
 - (2) 3 : 1
 - (3) 1 : $\sqrt{3}$
 - (4) $\sqrt{3}$: 1
21. If $a = 2 + \sqrt{3}$ and $b = 2 - \sqrt{3}$ then $\frac{1}{a^2} - \frac{1}{b^2}$ is equal to
- (1) 14
 - (2) -14
 - (3) $8\sqrt{3}$
 - (4) $-8\sqrt{3}$
22. Rationalizing factor of $1 + \sqrt{2} + \sqrt{3}$
- (1) $1 + \sqrt{2} - \sqrt{3}$
 - (2) 2
 - (3) 4
 - (4) $1 + \sqrt{2} - \sqrt{3}$
23. If $x^2 - x - 42 = (x + k)(x + 6)$ then the value of x is
- (1) 6
 - (2) -6
 - (3) 7
 - (4) -7
24. The polynomials $ax^2 + 3x^2 - 3$ and $2x^3 - 5x + a$ when divided by $(x - 4)$ leaves remainders R_1 and R_2 respectively then value of a if $2R_1 - R_2 = 0$, is
- (1) $-\frac{18}{127}$
 - (2) $\frac{18}{32}$
 - (3) $\frac{17}{127}$
 - (4) $-\frac{17}{31}$

25. Which of the following is/are not the solutions of the equation $x - 2y = 4$?
- (1) (4, 0)
 - (2) $(\sqrt{2}, 4\sqrt{2})$
 - (3) (1, 1)
 - (4) (2, 0)
26. Check which of the following are solutions of the equation $2x - y = 4$?
- (1) $x = 0, y = -4$
 - (2) $x = 3, y = 2$
 - (3) $x = 1, y = 1$
 - (4) $y = 0, x = 2$
27. In figure, if $AB \parallel CD, CD \parallel EF$ and $y : z = 3 : 7$, $x = ?$

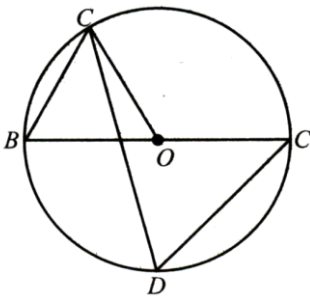


- (1) 112°
 - (2) 116°
 - (3) 96°
 - (4) 126°
28. In the adjoining fig, AP and BP are angle bisector of $\angle A$ and $\angle B$ which meets at P on the parallelogram ABCD. Then $2 \angle APB =$
-
- (1) $\angle C + \angle D$
 - (2) $\angle A + \angle C$
 - (3) $\angle B + \angle D$
 - (4) $2\angle C$
29. If D is any point on the side BC of a ΔABC , then
- (1) $AB + BC + CA > 2AD$
 - (2) $AB + BC + CA < 2AD$
 - (3) $AB + BC + CA > 3AD$
 - (4) None

30. In the adjoining figure, PQRS is a cyclic quadrilateral. If $\angle SPR = 25^\circ$ and $\angle PRS = 60^\circ$, then the value of x is



- (1) 105°
 (2) 95°
 (3) 115°
 (4) 85°
31. In the given figure, BC is a diameter of the circle and $\angle BAO = 60^\circ$. Then $\angle ADC$ is equal to



- (1) 30°
 (2) 45°
 (3) 60°
 (4) 120°
32. A conical tent has a floor area of 154 sq. m. Its height 24 m. How much canvas is required for the tent ?
- (1) 500 sq. m.
 (2) 550 sq. m.
 (3) 700 sq. m.
 (4) 450 sq. m.
33. A hemispherical tank of radius 3 cm is full of milk. It is connected to a pipe, through which liquid is emptied at the 1/7 litre per second. The time taken to empty the tank completely ?
- (1) 0.302 sec
 (2) 0.396 sec
 (3) 0.453 sec
 (4) 0.492 sec
34. If the perimeter of one face of a cube is 20 cm, then its surface area is

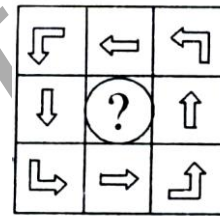
- (1) 120 cm^2
 (2) 150 cm^2
 (3) 125 cm^2
 (4) 400 cm^2

35. If \bar{x} represents the mean of n observations x_1, x_2, \dots, x_n , then value of $\sum_{i=1}^n (x_i - \bar{x})$ is

- (1) -1
 (2) 0
 (3) 1
 (4) $n - 1$

- In each of the following questions, select a figure from amongst the four alternatives, which placed in the blank space of fig.(X) would complete the pattern.

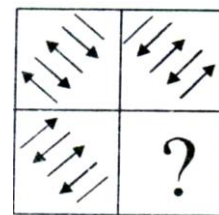
- 36.



(X)

- (1) (2)
- (3) (4)

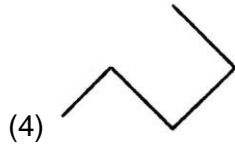
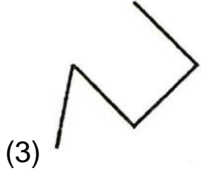
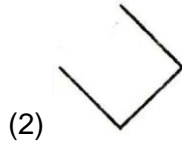
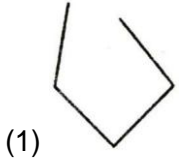
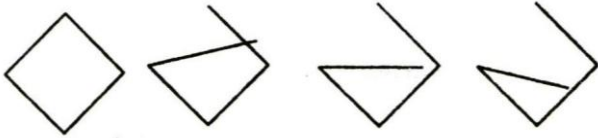
- 37.



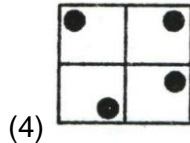
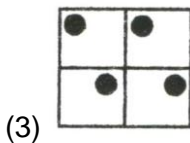
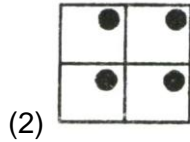
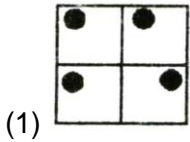
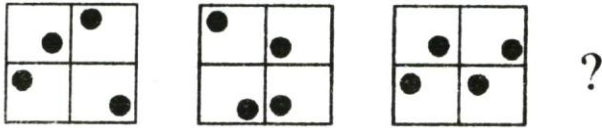
(X)

- (1) (2)
- (3) (4)

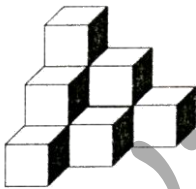
38. What comes next in the sequence?



39. What comes in the sequence?



40. Count the number of cubes in the given figure.



- (1) 14
- (2) 12
- (3) 10
- (4) 8

ANSWERS (SAFAL - CLASS 10TH)

Q	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans	4	4	4	2	2	2	2	1	1	2	1	4	3	4	4
Q	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans	4	4	3	4	3	1	1	4	2	2,3,4	1,2	4	1	1	4
Q	31	32	33	34	35	36	37	38	39	40					
Ans	3	2	2	2	2	4	1	2	4	3					