रेलवे भर्ती बोर्ड / RAILWAY RECRUITMENT BOARD
सीईएन ०२ /२०२५ - तकनीशियन ग्रेड I सिगनल और तकनीशियन ग्रेड III
CEN 02/2025 – Technician Grade I Signal and Technician Grade III

सत्यमेव जयते

Test Date	06/03/2026
Test Time	9:00 AM - 10:30 AM
Subject	RRB Technician Grade III

*** Note**
Correct Answer will carry 1 mark per Question.
Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.
2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : **Mathematics**

Q.1 If 15 workers can build a wall in 10 days, how many workers are needed to build it in 6 days?

Ans
✗ A. 22
✗ B. 26
✗ C. 20
✓ D. 25

Q.2 If a sum of ₹8000 becomes thrice of itself after 8 years on compound interest, then how much will it become after 24 years?

Ans
✗ A. ₹236000
✗ B. ₹253000
✗ C. ₹206000
✓ D. ₹216000

Q.3 The value of a machine is first depreciated by 20%. It is then appreciated by 25% and finally depreciated by 10%. Find the overall percentage change in its value.

Ans
✓ A. 10% decrease
✗ B. 12% decrease
✗ C. 5% decrease
✗ D. 8% decrease

Q.4 A can finish a work in 5 days and B can do the same work in 50 days. B worked alone for 10 days and left the job. In how many days can A alone finish the remaining work?

Ans
✓ A. 4
✗ B. 3.5
✗ C. 4.5
✗ D. 3

Q.5 If a number is added to each of the numbers 16, 20 and 30, then the resulting numbers are in the continued proportion. Find the mean proportional between the largest and smallest of the resulting numbers.

Ans

✗ A. $\frac{26}{9}$

✗ B. $\frac{50}{9}$

✗ C. $\frac{40}{3}$

✓ D. $\frac{20}{3}$

Q.6 Simplify $(5z-12y)^2 + (12z+5y)^2 - 144z^2$.

Ans

✗ A. $24z^2 + 171y^2$

✓ B. $25z^2 + 169y^2$

✗ C. $31z^2 + 161y^2$

✗ D. $32z^2 + 170y^2$

Q.7 The average of three numbers is 20. If the two numbers are 11 and 22, respectively, then the third number is:

Ans

✓ A. 27

✗ B. 26

✗ C. 28

✗ D. 29

Q.8 The sum of the present ages of Sharad and Adarsh is 36 years. After 2 years from now, Sharad's age will be three times that of Adarsh. Sharad's present age (in years) is:

Ans

✗ A. 26

✗ B. 37

✓ C. 28

✗ D. 24

Q.9 A person borrows ₹10,000 for 3 years at 5% per annum simple interest. He immediately lends it to another person at $8\frac{1}{4}\%$ per annum simple interest for 3 years. What is his gain (in ₹) in the transaction per year?

Ans

✗ A. 375

✗ B. 450

✓ C. 325

✗ D. 400

Q.10 What is the decimal form of $\frac{7}{2} + 32.5 + 1.245 + \frac{3}{4}$?

Ans

✗ A. 39.778

✓ B. 37.995

✗ C. 35.005

✗ D. 32.125

Q.11 If x is the third proportional to 2 and y, and y is the third proportional to x and 18, then what is the value of y?

Ans
- ✗ A. $4\sqrt[3]{3}$
- ✗ B. $5\sqrt[3]{3}$
- ✗ C. $3\sqrt[3]{3}$
- ✓ D. $6\sqrt[3]{3}$

Q.12 A classroom has 46 boys and 36 girls. If the number of girls is increased successively by 25% followed by another 20%, by how many will the number of girls exceed the number of boys?

Ans
- ✗ A. 12
- ✓ B. 8
- ✗ C. 6
- ✗ D. 10

Q.13 If the lateral surface area of a cylinder is 140.1 cm^2 and its height is 3 cm, then find its volume. (Use π = 3.14 and round off to two decimal places.)

Ans
- ✗ A. 562.32 cm3
- ✗ B. 559.99 cm3
- ✓ C. 520.91 cm3
- ✗ D. 570.58 cm3

Q.14 Find the value of $36 - [10 - 3\{14 \div 2 - (10 \div 2 \times 3 - 4 + 7)\}]$.

Ans
- ✗ A. -5
- ✓ B. -7
- ✗ C. 5
- ✗ D. 7

Q.15 For a given data, the mean is 48.5 and the median is 44. The mode of the data is:

Ans
- ✗ A. 42
- ✓ B. 35
- ✗ C. 32
- ✗ D. 25

Q.16 The length of one of the two parallel sides of a trapezium is 8 cm, while the length of the other side of this pair of parallel sides is equal to the distance between this pair of parallel sides. If the area of the trapezium is 120 cm^2, then what is the distance (in cm) between the said pair of parallel sides?

Ans
- ✗ A. 20
- ✗ B. 10
- ✗ C. 15
- ✓ D. 12

Q.17 If the surface area of a sphere is 314 cm^2, find its radius.
(Take π = 3.14)

Ans
- ✗ A. 50 cm
- ✗ B. 0.5 cm
- ✗ C. 0.05 cm
- ✓ D. 5 cm

Q.18 The value of $4 + \tan^2\theta + \cot^2\theta - \sec^2\theta \operatorname{cosec}^2\theta$ is:

Ans
- ✗ A. 0
- ✗ B. -2
- ✗ C. 4
- ✓ D. 2

Q.19 Find the product of the common prime factors of the numbers 1950, 1560 and 2340.

Ans
- ✗ A. 360
- ✓ B. 390
- ✗ C. 480
- ✗ D. 520

Q.20 A, B, C, and D can do a piece of work in 12, 15, 20, and 30 days, respectively. All start together, but D leaves after 2 days, C leaves 3 days before the completion, and B leaves 2 days before the completion. Determine the total time required to complete the work.

Ans
- ✗ A. 5 days 20 hours
- ✗ B. 8 days 6 hours
- ✓ C. 6 days 2 hours
- ✗ D. 5 days 10 hours

Q.21 During a sale 50% of the goods are sold at 40% profit, 40% of the remaining goods are sold at 13% profit and the still remaining goods are sold at a loss of 32%. If there is an overall profit of x%, then what is the value of x?

Ans
- ✗ A. 13.5
- ✗ B. 14
- ✗ C. 12.5
- ✓ D. 13

Q.22 Two trains of lengths 120 m and 180 m are running in opposite directions at speeds of 60 km/h and 75 km/h, respectively. In how many seconds will they completely cross each other?

Ans
- ✗ A. 10 seconds
- ✓ B. 8 seconds
- ✗ C. 9 seconds
- ✗ D. 11 seconds

Q.23 A shopkeeper lists the price of a fan at 36% above its cost price and offers a 25% discount on its list price. If he earns a profit of ₹179, then what is the list price (in ₹) of the fan?

Ans
- ✓ A. 12,172
- ✗ B. 12,247
- ✗ C. 12,166
- ✗ D. 12,213

Q.24 Simplify:
$8 \times 8 + 6 \times 6 + [6 \times \{4 \div 2 \times (3 \text{ of } 2)\} - \{36 \div (6 \times 3) + (8 \times 3)\}] \div 2$

Ans
- ✗ A. 93
- ✓ B. 123
- ✗ C. 73
- ✗ D. 153

Q.25 When one-third of a number is increased by 87, the result is 107. Find the sum of the digits of the original number.

Ans
- ✗ A. 3
- ✓ B. 6
- ✗ C. 5
- ✗ D. 8

Section : **General Intelligence and Reasoning**

Q.26 What will come in the place of '?' in the following equation, if '+' and '-' are interchanged and 'x' and '÷' are interchanged?

5 ÷ 2 + 16 x 4 - 4 = ?

Ans
- ✗ A. 14
- ✗ B. 8
- ✗ C. 12
- ✓ D. 10

Q.27 The position(s) of how many letters will remain unchanged if each letter in the word "FOXHUNTERS" is arranged in alphabetical order?

Ans
- ✗ A. One
- ✗ B. Two
- ✗ C. Three
- ✓ D. None

Q.28 Select the pair which follows the same pattern as that followed by the two pairs given below. Both pairs follow the same pattern.

NEX : RIB
VBS : ZFW

Ans
- ✓ A. TAJ : XEN
- ✗ B. GWR : IZU
- ✗ C. QKE : TNH
- ✗ D. YSD : CUF

Q.29 Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which is the one that does not belong to that group? ***(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)***

Ans
- ✓ A. FN – KS
- ✗ B. HP – NV
- ✗ C. CK – IQ
- ✗ D. GO – MU

Q.30 In a certain code language, 'MIND' is coded as '7542' and 'DOPE' is coded as '1436'. What is the code for 'D' in that language?

Ans
- ✓ A. 4
- ✗ B. 2
- ✗ C. 3
- ✗ D. 1

Q.31 Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster DOES NOT belong to that group?
(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

Ans
- ✔ A. YTW
- ✘ B. EHF
- ✘ C. JMK
- ✘ D. ILJ

Q.32 What should come in place of '?' in the given series?

31 44 52 65 73 ?

Ans
- ✘ A. 80
- ✘ B. 82
- ✔ C. 86
- ✘ D. 84

Q.33 Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which letter-cluster pair DOES NOT belong to that group?
(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

Ans
- ✘ A. EW – BB
- ✔ B. HK – DP
- ✘ C. QC – NH
- ✘ D. KM – HR

Q.34 Based on the alphabetical order, three of the following four are alike in a certain way and thus form a group. Which is the one that does not belong to that group?
(Note: The odd man out is not based on the number of consonants/vowels or their position in the letter cluster.)

Ans
- ✔ A. FGO
- ✘ B. PQV
- ✘ C. IJO
- ✘ D. BCH

Q.35 In a row of 45 people facing north, Pari is 14^{th} from the right end. If Bittu sits 20^{th} to the left of Pari, what is Bittu's position from the left end of the line?

Ans
- ✘ A. 10th
- ✘ B. 13th
- ✘ C. 11th
- ✔ D. 12th

Q.36 Select the set in which the numbers are related in the same way as are the numbers of the following sets.

(Note: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

(8, 3, 7)
(9, 4, 9)

Ans
- ✔ A. (7, 2, 5)
- ✘ B. (13, 8, 15)
- ✘ C. (12, 17, 35)
- ✘ D. (11, 5, 13)

Q.37 In a certain code language, 'CRAB' is coded as '8642' and 'BENT' is coded as '1358'. What is the code for 'B' in that language?

Ans
- ✔ A. 8
- ✘ B. 2
- ✘ C. 3
- ✘ D. 1

Q.38 In a certain code language,
A + B means 'A is the son of B',
A - B means 'A is the brother of B',
A x B means 'A is the wife of B', and
A ÷ B means 'A is the father of B'.
Based on the above, how is Z related to H if 'Z+U-NxC÷H'?

Ans
- ✘ A. Brother's Son
- ✘ B. Father
- ✔ C. Mother's brother's Son
- ✘ D. Mother's brother

Q.39 A, E, I, O, F, G and H are sitting around a circular table facing the centre of the table. Only two people sit between E and O when counted from the right of E. Only two people sit between O and I. Only three people sit between E and H. A sits to the immediate left of G.
Who sits third to the left of F?

Ans
- ✔ A. G
- ✘ B. I
- ✘ C. E
- ✘ D. A

Q.40 A, B, C, P, S, T and U are sitting in a straight line facing the north. Only two people are seated between T and U. Only C is seated to the right of S. Only one person is seated between U and S. A is seated at some place to the right of P, but at some place to the left of B. How many people are seated between B and P?

Ans
- ✘ A. Three
- ✘ B. Four
- ✘ C. One
- ✔ D. Two

Q.41 In a certain code language,
A + B means 'A is the mother of B'
A - B means 'A is the brother of B'
A x B means 'A is the sister of B'
A ÷ B means 'A is the daughter of B'

Based on the above, how is G related to K if 'G + H ÷ I - J x K'?

Ans
- ✘ A. Daughter
- ✘ B. Sister
- ✔ C. Brother's wife
- ✘ D. Brother's daughter

Q.42 Raju starts from Point A and drives 9 km towards north. He then takes a left turn, drives 8 km, turns left and drives 13 km. He then takes a left turn and drives 11 km. He takes a final left turn, drives 4 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again?

(All turns are 90° turns only unless specified.)

Ans
- ✘ A. 2 km to the east
- ✘ B. 4 km to the east
- ✔ C. 3 km to the west
- ✘ D. 3 km to the east

Q.43 WAVE is related to XBXG in a certain way based on the English alphabetical order. In the same way, KING is related to LJPI. To which of the given options is SONG related, following the same logic?

Ans
✗ A. RPOI
✗ B. RRPK
✓ C. TPPI
✗ D. TRPK

Q.44 Select the pair that follows the same pattern as the one followed by the two set of pairs given below. Both pairs follow the same pattern.

IRQ : KPP
MEU : OCT

Ans
✗ A. GRP : IPN
✗ B. CMR : EKP
✓ C. RQN : TOM
✗ D. FJM : HGL

Q.45 In a row of 29 people facing north, Karan is 9th from the right end. If Ramesh sits fifth to the left of Karan, what is Ramesh's position from the left end of the line?

Ans
✗ A. 14th
✗ B. 17th
✗ C. 15th
✓ D. 16th

Q.46 Refer to the following series and answer the question (All numbers are single-digit numbers only. Counting is to be done from left to right.)

(Left) 6 8 2 1 4 8 7 1 3 7 2 4 8 9 5 4 3 5 2 7 (Right)

How many such digits are there each of which is immediately preceded by a perfect square and immediately followed by an odd digit? (NOTE: 1 is also a perfect square.)

Ans
✗ A. Three
✓ B. Four
✗ C. Two
✗ D. One

Q.47 If 'A' stands for '÷', 'B' stands for '×', 'C' stands for '+' and 'D' stands for '–', what will come in place of the question mark (?) in the following equation?

2 B 1 D 14 A 2 C 7 = ?

Ans
✗ A. 4
✗ B. 3
✗ C. 1
✓ D. 2

Q.48 Piyush is the brother of Vidhi. Vidhi is the sister of Kunti. Kunti is the wife of Arjun. Arjun is the father of Abhimanyu. How is Piyush related to Abhimanyu?

Ans
✗ A. Mother's father
✗ B. Father's father
✓ C. Mother's brother
✗ D. Father's brother

Q.49 Refer to the following letter series and answer the question that follows. Counting to be done from left to right.
(Left) F Z I U K J Q D H M C X O E N L P G B E A (Right)
How many such vowels are there, each of which is immediately preceded by a consonant and also immediately followed by a vowel?

Ans
- ✔ A. Three
- ✘ B. Two
- ✘ C. One
- ✘ D. None

Q.50 Each letter in the word EDITORIAL is arranged in alphabetical order. How many letters are there in the English alphabetical order between the letter which is fourth from the left and the one which is second from the right in the new letter cluster thus formed?

Ans
- ✔ A. 8
- ✘ B. 6
- ✘ C. 5
- ✘ D. 7

Section : **General Science**

Q.51 Which statement correctly describes the universal law of gravitation?

Ans
- ✘ A. The gravitational force increases as the distance between objects increases.
- ✔ B. The gravitational force increases with the product of the masses and decreases with the square of the distance between them.
- ✘ C. The gravitational force decreases when the masses of the objects increase.
- ✘ D. The gravitational force depends only on the distance between the objects, not their masses.

Q.52 If the force of gravitation between the Earth and the Moon is 'F' N, then how much will be the force between the Earth and the Moon if the distance between them is doubled? (Keep all the other parameters the same.)

Ans
- ✘ A. 4F
- ✘ B. 2F
- ✘ C. F/2
- ✔ D. F/4

Q.53 When applying the equations of motion to an object moving under gravitational force and thrown vertically upwards, the acceleration (a) should be taken as _____.

Ans
- ✘ A. Positive, as gravity is constant.
- ✘ B. Positive, as it is in the direction of velocity.
- ✔ C. Negative, as it opposes the initial motion.
- ✘ D. Independent of the direction of motion.

Q.54 Which type of epithelial tissue is primarily specialized for absorption in the human intestine?

Ans
- ✘ A. Simple cuboidal epithelium
- ✘ B. Simple squamous epithelium
- ✘ C. Stratified squamous epithelium
- ✔ D. Simple columnar epithelium

Q.55 Which of the following best describes the primary function of connective tissue?

Ans
- ✘ A. Producing force through contraction and relaxation.
- ✘ B. Absorbing digested nutrients across epithelial surfaces.
- ✘ C. Conducting electrical impulses for rapid communication.
- ✔ D. Supporting and providing structural framework to body parts.

Q.56 For an object moving with uniform velocity, the height of its velocity-time graph remains constant with time. This results in a graph that is a _____.

Ans
- ✗ A. Straight line passing through the origin
- ✓ B. Straight line parallel to the x-axis
- ✗ C. Vertical line
- ✗ D. Curve

Q.57 What is the primary reason curved ceilings are used in concert halls?

Ans
- ✗ A. To decorate the hall
- ✗ B. To block noise
- ✗ C. To absorb sound
- ✓ D. To reflect sound evenly

Q.58 Read the following statements carefully and choose the correct option.

Statement 1: Members of a homologous series differ by a $–CH_2–$ group.
Statement 2: Each successive member of a homologous series differs from the previous one by 12 u in molecular mass.

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

Q.59 If 9 g of water contains 1 g of hydrogen and 8 g of oxygen, then 36 g of water will contain:

Ans
- ✓ A. 4 g of hydrogen and 32 g of oxygen
- ✗ B. 3 g of hydrogen and 32 g of oxygen
- ✗ C. 4 g of hydrogen and 24 g of oxygen
- ✗ D. 3 g of hydrogen and 24 g of oxygen

Q.60 Why is biological magnification a health risk even with limited pesticide use?

Ans
- ✗ A. Non-biodegradable pesticides are immediately excreted and do not persist
- ✗ B. Pesticides affect only soil microorganisms, not higher organisms
- ✓ C. Non-biodegradable pesticides accumulate at successive trophic levels
- ✗ D. The toxicity of pesticides decreases as they move up the food chain

Q.61 Which quantity decreases when a solid object is immersed in water?

Ans
- ✗ A. Mass
- ✗ B. Buoyant force
- ✓ C. Apparent weight
- ✗ D. Density

Q.62 The process wherein the body of the living organism splits into two exactly identical halves is termed as _____.

Ans
- ✗ A. budding
- ✗ B. fragmentation
- ✓ C. binary fission
- ✗ D. multiple fission

Q.63 **Even though people eat different types of food, they may still absorb harmful chemical residues. This is because _____.**

Ans

✗ A. Food grains absorb only useful chemicals from soil

✗ B. All plants produce natural pesticides

✓ C. Chemicals persist and accumulate via biomagnification

✗ D. Pesticides are completely destroyed during cooking

Q.64 **The resistivity of an alloy is generally higher than its constituent metals, and this property makes alloys suitable for _____.**

Ans

✗ A. Connecting wires (e.g., copper transmission lines)

✗ B. Filaments of electric bulbs (e.g., tungsten)

✓ C. Heating elements (e.g., nichrome)

✗ D. Circuit fuses (e.g., lead/tin alloy)

Q.65 **Select the correct option regarding the given statements.**

Statement 1: Suspensions scatter light.
Statement 2: When particles settle down, they no longer scatter light.

Ans

✗ A. Statement 1 is true and Statement 2 is false.

✗ B. Both statements are false.

✗ C. Both statements are true, and Statement 2 explains Statement 1.

✓ D. Both statements are true, but Statement 2 does not explain Statement 1.

Q.66 **Which of the following is an example of a double displacement reaction?**

Ans

✗ A. $Fe + CuSO_4 \rightarrow FeSO_4 + Cu$

✗ B. $2H_2 + O_2 \rightarrow 2H_2O$

✗ C. $CaCO_3 \rightarrow CaO + CO_2$

✓ D. $Na_2SO_4 + BaCl_2 \rightarrow BaSO_4 + 2NaCl$

Q.67 **The symbol 'B' represents which element?**

Ans

✗ A. Bromine

✗ B. Barium

✗ C. Beryllium

✓ D. Boron

Q.68 **When potassium reacts with water, we observe:**

Ans

✗ A. No visible change

✗ B. Formation of a greenish compound

✗ C. Gentle bubbling and slow reaction

✓ D. Bright flame and rapid reaction

Q.69 **What is the primary function of the cell wall in plant cells?**

Ans

✗ A. Control cellular respiration

✗ B. Transport nutrients

✗ C. Control cell division

✓ D. Provide rigidity and protection

Q.70 Which of the following statement(s) is/are true regarding the magnetic field line pattern around a straight current carrying wire?

(i) The magnetic field lines around a current carrying wire are in the form of concentric circles.
(ii) The magnetic field lines around a current carrying wire intersect at various points.
(iii) The magnetic field lines move farther apart as one moves away from the wire.

Ans
- ✗ A. Only (i)
- ✗ B. Both (ii) and (iii)
- ✓ C. Both (i) and (iii)
- ✗ D. Only (ii)

Q.71 Which of the following factor helps in increasing crop yield?

Ans
- ✗ A. Using only rainwater for irrigation
- ✗ B. Using poor seeds without irrigation
- ✗ C. Ignoring crop protection
- ✓ D. Using quality seeds, irrigation, fertilisers, crop protection

Q.72 Which of the following correctly explains why toothpaste is basic in nature?

Ans
- ✓ A. To neutralise the acid formed in the mouth after eating food
- ✗ B. To provide an acidic medium for enzyme action in saliva
- ✗ C. To react with water and release hydrogen ions
- ✗ D. To lower the pH of saliva and prevent cavities

Q.73 What will be the wavelength of a sound wave whose frequency is 220 Hz and speed is 440 m/s in a given medium?

Ans
- ✗ A. 440 m
- ✗ B. 220 m
- ✓ C. 2 m
- ✗ D. 0.5 m

Q.74 Which calculation correctly determines the formula unit mass of $CaCl_2$?

Ans
- ✗ A. Atomic mass of Ca + (atomic mass of Cl ÷ 2) = 40 + 17.75 = 57.75 u
- ✓ B. Atomic mass of Ca + (2 × atomic mass of Cl) = 40 + 71 = 111 u
- ✗ C. Atomic mass of Ca + atomic mass of Cl = 40 + 35.5 = 75.5 u
- ✗ D. Atomic mass of Ca × atomic mass of Cl = 40 × 35.5 = 1420 u

Q.75 Dhritiman tries to extract magnesium from magnesium oxide using carbon. The attempt fails. What is the reason?

Ans
- ✗ A. Carbon reacts violently with oxygen.
- ✗ B. The reaction produces carbon monoxide only.
- ✗ C. Magnesium forms a volatile compound with carbon.
- ✓ D. Carbon is less reactive than magnesium.

Q.76 Plants get macro-nutrients mainly from the _____, and micro-nutrients in small quantities from the _____.

Ans
- ✓ A. soil ; soil
- ✗ B. water ; sand
- ✗ C. sunlight ; minerals
- ✗ D. air ; water

Q.77 Which of the following is an example of a double displacement reaction?

Ans
- ✗ A. $Na2O + H2O \rightarrow 2\ NaOH$
- ✓ B. $AgNO_3 + NaCl \rightarrow AgCl + NaNO_3$
- ✗ C. $2Mg + O_2 \rightarrow 2MgO$
- ✗ D. $H_2 + Cl_2 \rightarrow 2HCl$

Q.78 If a lens forms a real and inverted image, the height of the image h' is generally taken as _____.

Ans
- ✗ A. Positive, but less than the object height
- ✗ B. Positive, as it is above the axis
- ✗ C. Negative, only if the object is virtual
- ✓ D. Negative, as it is below the axis

Q.79 Which of the following correctly explains the adaptation of desert plants in photosynthesis?

Ans
- ✗ A. Light energy is captured at night and converted into starch for daytime use.
- ✗ B. Oxygen is absorbed at night while carbon dioxide is released during the day.
- ✓ C. Carbon dioxide uptake occurs at night and carbohydrates are synthesized during the day.
- ✗ D. Photosynthesis is restricted to night-time only to minimise water loss.

Q.80 Which of the following is a complex permanent tissue responsible for the transport of water in plants?

Ans
- ✗ A. Collenchyma
- ✓ B. Xylem
- ✗ C. Parenchyma
- ✗ D. Phloem

Q.81 Which of the following situations shows zero acceleration?

Ans
- ✗ A. A train speeding up
- ✗ B. An aeroplane taking off
- ✓ C. A car moving with constant speed on a straight road
- ✗ D. A ball thrown upward

Q.82 Choose a term to pair the analogy.

Nucleus : Eukaryotic Cell :: Nucleoid : _____

Ans
- ✗ A. Multicellular Organism
- ✗ B. Plant Cell
- ✓ C. Prokaryotic Cell
- ✗ D. Animal Cell

Q.83 Which of the following statements about Thomson's model of an atom is/are correct?

Statement 1. An atom consists of a positively charged sphere with electrons embedded in it.

Statement 2. The mass of the atom is due to neutrons located in the nucleus.

Statement 3. The model is often compared to a watermelon with seeds representing electrons.

Ans
- ✗ A. Only 1, 2, and 3
- ✗ B. Only 2 and 3
- ✗ C. Only 1
- ✓ D. Only 1 and 3

Q.84 What does the given circuit symbol represent?

Ans
- ✔ A. Variable resistance or rheostat
- ✘ B. A wire
- ✘ C. A battery
- ✘ D. Switch in the closed position

Q.85 A clean strip of calcium metal is added to cold water and the reaction is observed. Compared to sodium and magnesium, which of the following statements correctly describes calcium's reactivity and the nature of products formed?

Ans
- ✔ A. Calcium reacts less vigorously than sodium but more than magnesium, forming calcium hydroxide and hydrogen gas.
- ✘ B. Calcium reacts explosively like sodium, forming calcium hydroxide and hydrogen gas.
- ✘ C. Calcium reacts slowly with cold water, producing calcium oxide and oxygen gas.
- ✘ D. Calcium does not react with cold water but only with steam, forming calcium oxide and hydrogen gas.

Q.86 Which connective tissue forms the framework of the external ear, tip of the nose, and the ends of long bones?

Ans
- ✘ A. Areolar tissue
- ✘ B. Bone
- ✔ C. Cartilage
- ✘ D. Adipose tissue

Q.87 A convex mirror used as a rear-view mirror in a car has a radius of curvature of 4.00 m. A bus is located 6.00 m in front of the mirror. What will be the position and nature of the image formed?

Ans
- ✔ A. Image is formed at 1.5 m behind the mirror
- ✘ B. Image is formed at 1.2 m behind the mirror
- ✘ C. The image is formed at 3.0 m behind the mirror
- ✘ D. Image is formed at 3.0 m in front of the mirror

Q.88 If both solute and solvent masses are doubled, the concentration (mass %) of the solution will:

Ans
- ✔ A. Remain the same
- ✘ B. Double
- ✘ C. Become half
- ✘ D. Increase by 25%

Q.89 The urine formed in the kidneys passes through the _____ into the _____ where it is stored until excreted.

Ans
- ✘ A. urinary bladder; urethra
- ✔ B. ureters; urinary bladder
- ✘ C. nephrons; urethra
- ✘ D. urethra; ureters

Q.90 What is the work done on an object if its displacement is zero, even when a force is applied?

Ans
- ✔ A. Zero
- ✘ B. Infinite
- ✘ C. Negative
- ✘ D. Positive

Section : **General Awareness**

Q.91 Which of the following bodies approved the appointment of S Krishnan as Chairman of J&K Bank?

Ans
- ✘ A. NITI Aayog
- ✘ B. Ministry of Finance
- ✘ C. Insurance Regulatory and Development Authority of India(IRDAI)
- ✔ D. Reserve Bank of India

Q.92 Who was chosen as the first president of the Indian National Congress (INC) during its first session?

Ans
- ✔ A. Womesh Chandra Bonnerjee
- ✘ B. Surendranath Banerjee
- ✘ C. Bipin Chandra Pal
- ✘ D. Pherozeshah Mehta

Q.93 The recent $131 million deal for cutting-edge surveillance technology from HawkEye 360 involves which two countries ?

Ans
- ✘ A. India and Russia
- ✘ B. India and Ukraine
- ✔ C. India and United States
- ✘ D. India and Japan

Q.94 The Government has proposed to include which Union Territory under the ambit of Article 240 of the Constitution?

Ans
- ✘ A. New Delhi
- ✔ B. Chandigarh
- ✘ C. Lakshadweep
- ✘ D. Puduchery

Q.95 Which of the following British Indian government legislations provided for the establishment of a Supreme Court at Calcutta, comprising one chief justice and three other judges?

Ans
- ✘ A. Amending Act of 1781
- ✔ B. Regulating Act of 1773
- ✘ C. Pitt's India Act of 1784
- ✘ D. Charter Act of 1793

Q.96 Which of the following initiatives was introduced in India during Union budget 2020-21 to support farmers by enabling efficient air transportation of agricultural produce across domestic and international routes?

Ans
- ✘ A. Rural Export Enhancement Initiative
- ✘ B. National Farm Logistics Mission
- ✘ C. Krishi Air Connect Programme
- ✔ D. Krishi Udan Scheme

Q.97 In June 2025, Indian author Banu Mushtaq, in her acclaimed book Heart Lamp, explores which central theme through her vivid portrayal of everyday characters?

Ans
- ✗ A. Political leadership
- ✓ B. Caste and religious oppression
- ✗ C. Economic reforms
- ✗ D. Environmental activism

Q.98 Which distinctive drainage characteristic best describes the river Luni of north-western India?

Ans
- ✗ A. It flows directly into the Arabian Sea.
- ✗ B. It forms a large, well-developed delta at its mouth.
- ✗ C. It is the only glacier-fed perennial Himalayan river.
- ✓ D. It terminates in an inland salt marsh in the Rann region without reaching the sea.

Q.99 Which Article of the Constitution of India provides for the establishment of the National Commission for Scheduled Castes (NCSC) to safeguard the rights of the Scheduled Castes?

Ans
- ✗ A. Article 330
- ✗ B. Article 350
- ✓ C. Article 338
- ✗ D. Article 340

Q.100 Which of the following dancers is acclaimed for their mastery and teaching of Odissi?

Ans
- ✗ A. Kalamandalam Leelamma
- ✗ B. Sitara Devi
- ✓ C. Kelucharan Mohapatra
- ✗ D. Vempati Chinna Satyam

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