सत्यमेव जयते

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

Test Date	06/03/2026
Test Time	12:45 PM - 2:15 PM
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 $10\cos^2\theta + 7\sin^2\theta = 7$, where $0^\circ \leq \theta \leq 90^\circ$, then the value of $(\sin\theta + \cos\theta)$ is:

Ans
- ✔ A. 1
- ✘ B. 0
- ✘ C. 2
- ✘ D. -1

Q.2 When one-third of a number is increased by 37, the result is 51. Find the sum of the digits of the original number.

Ans
- ✘ A. 3
- ✘ B. 8
- ✘ C. 9
- ✔ D. 6

Q.3 Anisha borrowed ₹28,260 from her friend at 9% per annum, simple interest. She returned the amount after 9 months. How much interest did she pay?

Ans
- ✘ A. ₹ 1933.25
- ✘ B. ₹ 1948.20
- ✔ C. ₹ 1907.55
- ✘ D. ₹ 1970.75

Q.4 The lengths of two trains starting from stations P and Q are in the ratio 3 : 2. When they run in opposite directions at speeds of 54 km/h and 72 km/h, respectively, they cross each other in 30 seconds. The train starting from P crosses a bridge in 90 seconds. Find the length of the bridge.

Ans
- ✔ A. 720 meters
- ✘ B. 740 meters
- ✘ C. 620 meters
- ✘ D. 780 meters

Q.5 A person X invests ₹12,000 for 12 months and person Y invests ₹18,000 but withdraws his investment after 6 months. If the total profit earned on their investment is ₹25,200, what is X's share in the profit?

Ans
- ✗ A. ₹16,800
- ✗ B. ₹15,700
- ✓ C. ₹14,400
- ✗ D. ₹13,900

Q.6 A cylindrical printing drum of length 2.1 m makes 350 complete revolutions and prints 4158 m² of fabric. What is the radius of the drum? (Take π = 22/7)

Ans
- ✗ A. 60 cm
- ✗ B. 70 cm
- ✓ C. 90 cm
- ✗ D. 80 cm

Q.7 If a book costs ₹300 and its price is increased by 5%, by how much the new price of the book after the increase is more than the original price?

Ans
- ✓ A. ₹15
- ✗ B. ₹10
- ✗ C. ₹20
- ✗ D. ₹25

Q.8 One pipe can fill the tank in 20 min, while another pipe can empty the completely filled tank in 45 min. If both the pipes are operated together on empty tank, how long (in min) will it take to fill one-fourth of the tank?

Ans
- ✗ A. 36
- ✗ B. 27
- ✓ C. 9
- ✗ D. 18

Q.9 Simplify: $[(36+4\times(3+2\times(5-2)))\div(6+3)]+[(40-(6+3\times2))+(8\times2-6)]$

Ans
- ✗ A. 38
- ✓ B. 46
- ✗ C. 42
- ✗ D. 52

Q.10 If $x^2+\frac{1}{x^2}=16$ and $x\neq0$, then what is the value of $x^4+\frac{1}{x^4}$?

Ans
- ✓ A. 254
- ✗ B. 260
- ✗ C. 258
- ✗ D. 252

Q.11 A student scored 84% of the maximum marks in an exam and passed by 62 marks. But when he scored 45% of the marks in the same exam, he failed by 35.5 marks. Find the maximum marks of the exam.

Ans
- ✗ A. 240
- ✗ B. 265
- ✓ C. 250
- ✗ D. 225

Q.12 Which of the following numbers DOES NOT have exactly four distinct positive divisors?

Ans
- ✗ A. p^3 for prime p
- ✗ B. $p \cdot q$ for distinct primes p and q
- ✗ C. q^3 for prime q
- ✓ D. p^2 for prime p

Q.13 If $x = \frac{\sqrt{5}+2}{\sqrt{5}-2}$ and $y = \frac{\sqrt{5}-2}{\sqrt{5}+2}$, then find the value of $x^2 + y^2$.

Ans
- ✗ A. 312
- ✗ B. 311
- ✓ C. 322
- ✗ D. 302

Q.14 The average age of a husband and wife at the time of their marriage was 28 years. Their daughter was born two years after their marriage. If the present average age of all three family members is 24 years, how many years ago from now, did the couple get married?

Ans
- ✗ A. 4
- ✓ B. 6
- ✗ C. 8
- ✗ D. 7

Q.15 The area of a square is 9 cm^2. Its perimeter is equal to the perimeter of a regular hexagon. What is the area (in cm^2) of the hexagon?

Ans
- ✗ A. 32
- ✓ B. $6\sqrt{3}$
- ✗ C. $42\sqrt{3}$
- ✗ D. 40

Q.16 Which of the following is not a property of triangles?

(i) The sum of three angles of a triangle is always 180°.

(ii) Area of a triangle is defined as $\frac{1}{3} \times \text{base} \times \text{length of altitude}$.

(iii) The perimeter of a triangle is the sum of lengths of all three sides.

(iv) The exterior angle of a triangle is equal to the sum of its interior opposite angles.

Ans
- ✗ A. (iv)
- ✗ B. (iii)
- ✗ C. (i)
- ✓ D. (ii)

Q.17 Three workers A, B, C can finish a job in 10, 15, and 20 hours respectively. A and B start; after 2 hours, C joins and they finish the remaining work in t more hours. What is the value of t? (Rounded off to the nearest integer.)

Ans
- ✗ A. 4
- ✗ B. 5
- ✗ C. 6
- ✓ D. 3

Q.18 What sum of money (in ₹) will yield ₹720 as simple interest in 2 years at 5% per annum?

Ans

✗ A. 7600

✓ B. 7200

✗ C. 6700

✗ D. 7400

Q.19 What is the mode of the following data?
51, 48, 50, 55, 44, 52, 45, 52, 44, 49, 55, 54, 44, 54, 43, 45, 55, 47

Ans

✓ A. 55

✗ B. 54

✗ C. 44

✗ D. 45

Q.20 Simplify: $\left(\frac{5}{6}+\frac{1}{3}\right)\div\left(\frac{2}{5}+0.3\right)\times 0.5+\frac{5}{6}$

Ans

✓ A. $\frac{5}{3}$

✗ B. $\frac{1}{3}$

✗ C. $\frac{1}{6}$

✗ D. $\frac{5}{6}$

Q.21 Fourteen years from now, the sum of A's and B's ages will be twice the sum of their current ages. If A is currently 8 years older than B, what is A's present age?

Ans

✗ A. 12

✗ B. 10

✓ C. 18

✗ D. 16

Q.22 Anusha starts a business with ₹55,000 and after 7 months, Minal joins Anusha as her partner. After a year, the profit is divided in the ratio 8 : 3. What is Minal's contribution in the capital?

Ans

✗ A. ₹50,755

✗ B. ₹49,410

✓ C. ₹49,500

✗ D. ₹48,745

Q.23 A shopkeeper sold a book at a loss of 6%. If the selling price had been increased by ₹960, there would have been a gain of 19%. What was the cost price (in ₹) of the book?

Ans

✗ A. 3850

✗ B. 3835

✓ C. 3840

✗ D. 3845

Q.24 Two numbers are in the ratio of 4 : 5, and their HCF is 16. Find the LCM of the two numbers.

Ans

✗ A. 360

✗ B. 380

✗ C. 340

✓ D. 320

Q.25 A dealer buys two articles X and Y for ₹1,300 each. He marks each of them at the same price. He sells X by giving two successive discounts of 84% and 25% and still earns ₹734 as profit. If he sells Y at a single discount of 87%, then what is the profit percentage on Y?

Ans
- ✗ A. 69%
- ✗ B. 68.5%
- ✗ C. 68%
- ✓ D. 69.5%

Section : General Intelligence and Reasoning

Q.26 In a certain code language,
A + B means 'A is the son of B'
A – B means 'A is the brother of B'
A @ B means 'A is the daughter of B'
A # B means 'A is the father of B'
Based on the above, how is F related to O if 'F # L – R @ O'?

Ans
- ✗ A. Father
- ✓ B. Husband
- ✗ C. Brother
- ✗ D. Son

Q.27 What will come in the place of '?' in the following equation, if '+' and '-' are interchanged and 'x' and '÷' are interchanged?

6 ÷ 2 + 24 x 6 - 4 = ?

Ans
- ✓ A. 12
- ✗ B. 16
- ✗ C. 10
- ✗ D. 14

Q.28 In a certain code language, 'door closed now' is coded as 'vt xg uk' and 'school is closed' is coded as 'cw uk ne'. How is 'closed' coded in the given language? (All the codes are two letter codes only.)

Ans
- ✗ A. ne
- ✗ B. xg
- ✗ C. vt
- ✓ D. uk

Q.29 What should come in place of '?' in the given series?

44 52 61 71 82 ?

Ans
- ✗ A. 92
- ✓ B. 94
- ✗ C. 96
- ✗ D. 98

Q.30 The position(s) of how many letters will remain unchanged if each letter in the word COMBINED is arranged in the English alphabetical order?

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

Q.31 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.)

(5, 12, 28)
(4, 11, 26)

Ans

✗ A. (7, 16, 36)

✗ B. (8, 19, 42)

✗ C. (3, 10, 16)

✓ D. (6, 13, 30)

Q.32 Refer to the following letter series and answer the question that follows. Counting to be done from left to right.
(Left) D U A L J X E I H R S B W P K T C V M F Y (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. One

✗ B. Three

✓ C. Two

✗ D. None

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. AE - FB

✓ B. WH - BD

✗ C. GQ - LN

✗ D. QK - VH

Q.34 Six friends B, C, L, M, N and O are sitting around a circular table facing the center of the table. L sits fourth to the right of O. Only one person sits between M and N when counted from the left of M. L sits third to the left of C. B is an immediate neighbor of C and N. How many people sit between L and B when counted from the left of B?

Ans

✗ A. Two

✗ B. One

✓ C. Three

✗ D. Four

Q.35 A, B, C, P, S, T and U are sitting in a straight line facing the north. Only three people are seated to the left of S. Only A is seated to the right of B. Only three people are seated between B and C. P is seated at some place to the left of T, but at some place to the right of U. How many people are seated between U and T?

Ans

✓ A. Three

✗ B. Two

✗ C. One

✗ D. Four

Q.36 Ankur starts from Point A and drives 11 km towards east. He then takes a right turn, drives 7 km, turns right and drives 14 km. He then takes a right turn and drives 12 km. He takes a final right turn, drives 3 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. 5 km to the south
- ✘ B. 4 km to the north
- ✘ C. 5 km to the north
- ✘ D. 4 km to the south

Q.37 What should come in place of ? in the given series based on the English alphabetical order?

LPF KOE JND IMC ?

Ans
- ✘ A. HLA
- ✘ B. HKA
- ✔ C. HLB
- ✘ D. HKB

Q.38 Each letter in the word DANGEROUS 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 fourth from the right in the new letter cluster thus formed?

Ans
- ✘ A. 8
- ✘ B. 6
- ✘ C. 9
- ✔ D. 7

Q.39 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) 7 9 8 5 1 8 4 3 5 6 9 7 4 5 2 4 1 3 4 8 7 6 4 (Right)

How many such odd digits are there each of which is immediately preceded by an even digit and also immediately followed by an odd digit?

Ans
- ✔ A. More than three
- ✘ B. Two
- ✘ C. Three
- ✘ D. One

Q.40 In a row of 50 people facing north, Cara is 19^{th} from the right end. If Gita sits 19^{th} to the left of Cara, what is Gita's position from the left end of the line?

Ans
- ✔ A. 13th
- ✘ B. 14th
- ✘ C. 15th
- ✘ D. 16th

Q.41 In a certain code language,
A @ B means 'A is the brother of B',
A x B means 'A is the daughter of B',
A o B means 'A is the father of B', and
A ≥ B means 'A is the wife of B'.
Based on the above, how is Z related to N if 'Z x C ≥ L o M @ N'?

Ans
- ✔ A. Mother
- ✘ B. Wife
- ✘ C. Daughter
- ✘ D. Sister

Q.42 KL 36 is related to MN 41 in a certain way. In the same way, QR 91 is related to ST 96. To which of the following is EF 64 related, following the same logic?

Ans
- ✗ A. IJ 79
- ✓ B. GH 69
- ✗ C. HI 68
- ✗ D. GI 69

Q.43 What should come in place of ? in the given series based on the English alphabetical order?

NPM LQJ JRG HSD ?

Ans
- ✓ A. FTA
- ✗ B. NHY
- ✗ C. MNJ
- ✗ D. HGT

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

KSD : HPA
FXM : CUJ

Ans
- ✓ A. LIQ : IFN
- ✗ B. HRC : EOY
- ✗ C. NBJ : JZH
- ✗ D. ATU : XRS

Q.45 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?

1 B 3 D 10 A 5 C 2 = ?

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

Q.46 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. MRX
- ✗ B. PUA
- ✗ C. TYE
- ✓ D. GKP

Q.47 WIND is related to VHOE in a certain way based on the English alphabetical order. In the same way, FIRE is related to EHSF. To which of the given options is GOLD related, following the same logic?

Ans
- ✗ A. FLNE
- ✗ B. EMNF
- ✗ C. FMNF
- ✓ D. FNME

Q.48 Ritik is the brother of Kajal. Kajal is the wife of Abhishek. Abhishek is the father of Megha. Megha is the sister of Priti. How is Ritik related to Priti?

Ans

✗ A. Father's father

✗ B. Mother's father

✗ C. Father's brother

✓ D. Mother's brother

Q.49 In a certain code language, 'conflict of interest' is coded as 'gu ky bz' and 'end this conflict' is coded as 'ky tg cn'. How is 'conflict' coded in the given language? (All the codes are two-letter codes only.)

Ans

✗ A. bz

✗ B. tg

✓ C. ky

✗ D. cn

Q.50 Mr. Kell ranked 84th from the top and 123rd from the bottom in his class. How many students are there in his class?

Ans

✓ A. 206

✗ B. 432

✗ C. 453

✗ D. 244

Section : **General Science**

Q.51 When white light is incident obliquely on a glass prism, which of the following statement(s) is/are NOT true?

(i) Red colour undergoes minimum deviation.
(ii) The speed of violet colour is the least while travelling through the prism.
(iii) Refractive index of green colour is more than the violet colour.
(iv) Refractive index of red colour is more than blue colour.

Ans

✗ A. Both (i) and (ii)

✗ B. Both (i) and (iv)

✗ C. Both (ii) and (iii)

✓ D. Both (iii) and (iv)

Q.52 A sound source has a frequency of 50 Hz. How many vibrations does it complete in one minute?

Ans

✗ A. 5000

✗ B. 50

✗ C. 600

✓ D. 3000

Q.53 A gardener buried five different substances in a garden: banana peels, newspaper, cotton cloth, plastic bottle and metal spoon. How many of the substances he buried were biodegradable?

Ans

✗ A. Four

✗ B. Two

✓ C. Three

✗ D. One

Q.54 The principal function of the plasma membrane is to:

Ans

✓ A. Regulate movement of substances across the cell.

✗ B. Store the cell's genetic material.

✗ C. Serve as the site of ATP synthesis.

✗ D. Provide rigid support and prevent cell swelling.

Q.55 When chemicals such as pesticides enter food chains and get more concentrated at higher levels, the process is known as ____.

Ans
- ✗ A. Biodegradation
- ✗ B. Photosynthesis
- ✗ C. Eutrophication
- ✓ D. Biological magnification

Q.56 All of the following functions are performed by different components of a Xylem tissue, EXCEPT:

Ans
- ✓ A. Transporting food from leaves
- ✗ B. Transporting water and minerals vertically
- ✗ C. Providing mechanical support
- ✗ D. Storing food

Q.57 In a homogeneous mixture, the size of particles of solute is typically:

Ans
- ✗ A. Between 1 nm and 1000 nm
- ✓ B. Less than 1 nm
- ✗ C. Larger than 1 µm
- ✗ D. Visible to the naked eye

Q.58 Four test tubes contain solutions of $CuSO_4$, $MgSO_4$, $ZnSO_4$, and $AgNO_3$. A student adds zinc metal to each test tube. In which test tube(s) will a reaction occur?

Ans
- ✗ A. With all solutions
- ✗ B. $CuSO_4$ only
- ✓ C. $CuSO_4$ and $AgNO_3$ only
- ✗ D. $ZnSO_4$ only

Q.59 Select a term to complete the given analogy.

Binary Fission : Bacteria :: Fragmentation : _____

Ans
- ✗ A. Birds
- ✓ B. Algae
- ✗ C. Mammals
- ✗ D. Insects

Q.60 What unique feature allows mitochondria to produce some of their own proteins?

Ans
- ✓ A. They contain their own DNA and ribosomes.
- ✗ B. They have two membranes.
- ✗ C. They produce ATP.
- ✗ D. Their outer membrane is porous.

Q.61 Which of the following is/are NOT true about the distance-time graph for a body moving in uniform motion?

(i) The slope of the distance-time graph gives the acceleration of the body.
(ii) The lesser the slope of the graph the slower the body is moving.
(iii) The area under this graph gives the speed of the body.

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

Q.62 **Which of the following statements correctly explains the working principle of dialysis in an artificial kidney?**

Ans

✔ A. Dialysis removes wastes from blood by diffusion across a semi-permeable membrane.

✘ B. Dialysis removes nitrogenous wastes from blood through active transport.

✘ C. Dialysis uses high pressure to force wastes out of the blood into the dialysing fluid.

✘ D. Dialysis reabsorbs essential nutrients and salts like a normal kidney.

Q.63 **The extent of bending of light rays achieved by a lens is expressed in terms of its _____.**

Ans

✘ A. Image Distance

✘ B. Aperture

✘ C. Magnification

✔ D. Power

Q.64 **In the substitution reaction of methane (CH_4) with chlorine (Cl_2) under UV light, what is the first product formed?**

Ans

✔ A. Methyl chloride (CH3Cl)

✘ B. Chloromethane (CH3Cl)

✘ C. Dichloromethane (CH2Cl2)

✘ D. Carbon tetrachloride (CCl4)

Q.65 **An electric oven has a power of 1200 W when it is operated at 100 V. How much will be the current flowing through the oven?**

Ans

✔ A. 12 A

✘ B. 8 A

✘ C. 1.2 A

✘ D. 0.08 A

Q.66 **1. A precipitation reaction occurs when two aqueous solutions react to form an insoluble solid.**
2. The solid formed is called a precipitate.
3. All precipitation reactions involve acids and bases only.

Which of the above statements are correct?

Ans

✘ A. 1, 2, and 3

✘ B. 2 and 3 only

✘ C. 1 and 3 only

✔ D. 1 and 2 only

Q.67 **Which statement best describes the arrangement of electrons in Thomson's atomic model?**

Ans

✘ A. Electrons revolve around the nucleus

✘ B. Electrons are found only on the surface of the atom

✔ C. Electrons are embedded in a positively charged sphere

✘ D. Electrons are located at the center of the atom

Q.68 **A car of mass 1000 kg moving with a velocity of 20 m/s comes to rest in 10 s after applying the brakes. What is the value of the force applied by the brakes?**

Ans

✔ A. - 2000 N

✘ B. - 5000 N

✘ C. - 500 N

✘ D. - 200 N

Q.69 What distinguishes broilers from layers in poultry farming?

Ans
- ✗ A. Layers are raised for meat; broilers for eggs
- ✗ B. Both are raised equally for meat and eggs
- ✗ C. Only broilers lay eggs
- ✓ D. Broilers are raised for meat; layers for eggs

Q.70 Which of the following salts, when dissolved in water, will produce a neutral solution?

Ans
- ✓ A. Sodium chloride (NaCl)
- ✗ B. Sodium acetate (CH_3COONa)
- ✗ C. Ammonium chloride (NH_4Cl)
- ✗ D. Potassium hydroxide (KOH)

Q.71 Which of the following non-metals is a good conductor of electricity in the solid state due to the presence of delocalized electrons within its crystal lattice?

Ans
- ✗ A. Phosphorus
- ✗ B. Iodine
- ✓ C. Graphite
- ✗ D. Sulphur

Q.72 A cyclist riding at constant speed on a circular track is an example of which type of motion?

Ans
- ✗ A. Non-uniform motion
- ✗ B. Linear motion
- ✓ C. Uniform circular motion
- ✗ D. Oscillatory motion

Q.73 Which of the following is NOT an application of the Archimede's Principle?

Ans
- ✓ A. Speedometers
- ✗ B. Hydrometers
- ✗ C. Lactometers
- ✗ D. Designing of submarines

Q.74 Choose a term to complete analogy.

Axon : Single long process :: Dendrite : _____

Ans
- ✓ A. Many short, branched parts
- ✗ B. Protective connective tissue
- ✗ C. Cell body with nucleus
- ✗ D. Rapid stimulus transmission

Q.75 Which statement is true about mass number?

Ans
- ✗ A. It is always twice the atomic number
- ✓ B. It is the sum of protons and neutrons in an atom
- ✗ C. It is equal to the number of electrons in an atom
- ✗ D. It is the total number of protons and electrons in an atom

Q.76 Which of the following is true about Fleming's left-hand rule?

Ans
- ✗ A. If the thumb points in the direction of current and the middle finger in the direction of magnetic field, the forefinger shows the direction of force.
- ✗ B. It is used only in electric circuits and not in devices like motors or loudspeakers.
- ✗ C. If the thumb points in the direction of force and the forefinger in the direction of current, the middle finger shows the direction of magnetic field.
- ✓ D. If the forefinger points in the direction of magnetic field and the middle finger in the direction of current, the thumb shows the direction of motion or force on the conductor.

Q.77 **Which of the following is NOT a reason for carbon's versatility?**

Ans

✗ A. Catenation

✗ B. Ability to form single, double and triple bonds

✗ C. Tetravalency

✓ D. Formation of ionic bonds

Q.78 **Which description correctly characterises parenchyma cells in the pith of a mature stem?**

Ans

✓ A. Large, loosely arranged living cells for storage.

✗ B. Tightly packed dead cells that aid in support and conduction.

✗ C. Thick-walled lignified cells for mechanical strength.

✗ D. Sclerenchyma fibers forming a protective cylinder.

Q.79 **Where in the body would you expect to find a single layer of extremely thin, flat epithelial cells designed for the transport of substances (gases) across a delicate lining?**

Ans

✗ A. Lining of kidney tubules, for mechanical support

✗ B. Inner lining of the intestine, for absorption

✓ C. Lining of lung alveoli, for gas exchange

✗ D. Skin, to prevent wear and tear

Q.80 **The primary purpose of check-dams in irrigation is to _____.**

Ans

✓ A. To increase groundwater by storing rainwater

✗ B. To lower the quality of the soil

✗ C. To worsen erosion of top soil

✗ D. To channel river water for factory operations

Q.81 **If mass is doubled and g remains constant, weight becomes _____.**

Ans

✗ A. Half

✗ B. Four times

✓ C. Double

✗ D. Same

Q.82 **Consider the following statements regarding the size of an atom.**

Statement 1: The size of an atom is approximately in the range of 0.1 nm to 0.5 nm.

Statement 2: Atomic size increases as we move from left to right in a period of the periodic table.

Statement 3: The radius of a hydrogen atom is about 10^{-10} meters.

Which of the above statements is/are correct?

Ans

✗ A. Only 2 and 3

✗ B. Only 1 and 2

✗ C. Only 1, 2 and 3

✓ D. Only 1 and 3

Q.83 **Newton's first law of motion explains the concept of _____.**

Ans

✗ A. Continuous acceleration

✓ B. Balanced forces

✗ C. Change in momentum

✗ D. Net force being non-zero

Q.84 SONAR technology uses ultrasound to _____.

Ans

✗ A. Measure electric current

✗ B. Produce high temperatures

✓ C. Locate underwater objects

✗ D. Measure atmospheric pressure

Q.85 If the molecular mass of an alkane is **44**, then its molecular formula is:

Ans

✗ A. C_2H_6

✗ B. C_4H_{10}

✓ C. C_3H_8

✗ D. CH_4

Q.86 A block of mass 20 kg is dropped from the top of a building of height 200 m. What will be the velocity with which the block will hit the ground? (Take the value of g = 10 m/s^2)

Ans

✗ A. $20\sqrt{5}$ m/s

✗ B. 40 m/s

✓ C. $20\sqrt{10}$ m/s

✗ D. 20 m/s

Q.87 Which of the following is NOT known to reproduce through fission?

Ans

✓ A. Hydra

✗ B. Paramecium

✗ C. Leishmania

✗ D. Amoeba

Q.88 Which of the following is represented by a circle with the letter 'V' in a circuit diagram?

Ans

✗ A. Voltage regulator

✗ B. Variable resistance

✗ C. Vacuum diode

✓ D. Voltmeter

Q.89 A student mixes sand, salt and water in a beaker and stirs well. After some time, what will be observed?

Ans

✗ A. Sand and salt both remain undissolved, forming two distinct layers.

✗ B. All components dissolve completely, forming a clear solution.

✓ C. Sand settles at the bottom, while salt dissolves in water.

✗ D. Sand remains permanently suspended in water, making the mixture cloudy.

Q.90 In chemical industries, bleaching powder acts mainly as:

Ans

✗ A. A reducing agent

✗ B. A neutralising agent

✓ C. An oxidising agent

✗ D. A catalyst

Section : **General Awareness**

Q.91 The Chota Nagpur Plateau of eastern India is especially known for the abundance of which of the following mineral resources that support the country's industry?

Ans

✗ A. Diamond-bearing kimberlite rocks

✗ B. Petroleum and natural gas reserves

✓ C. Coal and iron ore deposits

✗ D. Limestone used primarily for cement manufacture

Q.92 Which among the following slogans was popularised by Bal Gangadhar Tilak?

Ans
- ✔ A. Swaraj is my birthright and I shall have it
- ✘ B. Give me blood and I will give you freedom
- ✘ C. Freedom is our goal and we shall achieve it
- ✘ D. Liberty is our dream and we must attain it

Q.93 Which country has requested WTO dispute consultations with India regarding certain Indian measures in the automotive and renewable energy sectors?

Ans
- ✔ A. China
- ✘ B. Brazil
- ✘ C. America
- ✘ D. England

Q.94 Which instrument is described as a hand drum used by tribal communities in the hilly areas of Tripura and Meghalaya?

Ans
- ✘ A. Chyabrung
- ✘ B. Davandi
- ✘ C. Dhak
- ✔ D. Dama

Q.95 Words 'Integrity', 'Socialist' and 'Secular' were added to the Preamble of the Constitution of India by which of the following amendments?

Ans
- ✘ A. 24th Amendment, 1971
- ✔ B. 42nd Amendment, 1976
- ✘ C. 44th Amendment, 1978
- ✘ D. 52nd Amendment, 1985

Q.96 What is the primary objective of the ‘Aapki Punji Aapka Adhikar’ campaign, launched in 2025?

Ans
- ✘ A. Expanding micro-credit access for small businesses and self-help groups across rural districts
- ✘ B. Digitizing all personal banking accounts under the Jan Dhan and UPI framework for transparency
- ✔ C. Facilitating speedy settlement and rightful return of unclaimed financial assets to legitimate claimants
- ✘ D. Encouraging citizens to invest in long-term pension and insurance instruments for wealth creation

Q.97 Reserve Bank of India (RBI) has raised India’s GDP growth forecast for FY26 to .

Ans
- ✔ A. 7.3%
- ✘ B. 6.7%
- ✘ C. 6.9%
- ✘ D. 6.8%

Q.98 Which of the following dimensions is NOT directly included in the Human Development Index (HDI)?

Ans
- ✘ A. A long and healthy life
- ✘ B. A decent standard of living
- ✔ C. Human security
- ✘ D. Being knowledgeable

Q.99 **Which of the following British Indian government legislation separated for the first time 'provincial budgets' from the 'central budget' and authorised the provincial legislatures to enact their budgets?**

Ans

✗ A. Government of India Act of 1935

✗ B. Indian Councils Act of 1892

✗ C. Indian Councils Act of 1909

✓ D. Government of India Act of 1919

Q.100 **Vice-President CP Radhakrishnan inaugurated the 30th CII Partnership Summit in which city?**

Ans

✓ A. Visakhapatnam

✗ B. Patna

✗ C. New Delhi

✗ D. Ahmedabad

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