



रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARDS



सी ई एन आर आर बी - ०२/२०२४ - CEN RRB - 02/2024

Test Date	23/12/2024
Test Time	9:00 AM - 10:30 AM
Subject	RRB Technicians 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 : RRB Technicians Grade III

Q.1 The atomic number of an element is determined by the number of:

Ans ☒ 1. electrons

☒ 2. protons

☒ 3. neutrons

☒ 4. both protons and neutrons

Q.2 In a certain code language, 'PLATE' is coded as '25693' and 'MASK' is coded as '3417' and 'KEPT' is coded as '4695'. What is the code for 'L' in the given code language?

Ans ☒ 1. 2

☒ 2. 5

☒ 3. 4

☒ 4. 9

Q.3 Two pipes A and B can fill a cistern in $37\frac{1}{2}$ minutes and 45 minutes, respectively. Both pipes are open. The cistern will be filled in just half an hour, if the B is turned off after:

Ans ☒ 1. 9 min

☒ 2. 5 min

☒ 3. 10 min

☒ 4. 15 min

Q.4 'Project Udbhav is an initiative aimed at rediscovering and integrating ancient Indian military knowledge from texts on statecraft, warfare, diplomacy and grand strategy into modern military practices.' Who launched Project Udbhav?

Ans ☒ 1. Indian Navy and Defence Research and Development Organisation (DRDO)

☒ 2. Army Training Command (ARTRAC) and Indian Air Force

☒ 3. Indian Army and United Service Institution (USI)

☒ 4. Ministry of Defence and National Defence Academy (NDA)

Q.5 _____ are found in the epidermis of a leaf.

- Ans**
- ☐ 1. Vascular bundle
 - ☐ 2. Aerenchyma
 - ☒ 3. Stomata
 - ☐ 4. Chlorenchyma

Q.6 Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?

- TWP, SVO, RUN, QTM, ?
- Ans**
- ☐ 1. PLS
 - ☒ 2. PSL
 - ☐ 3. LSP
 - ☐ 4. LPS

Q.7 Which of the following represents the correct formula for calcium oxide?

- Ans**
- ☐ 1. Ca_2O
 - ☐ 2. CaO_2
 - ☐ 3. Ca_2O_3
 - ☒ 4. CaO

Q.8 The difference between two numbers is 46 and they are in the ratio 5 : 3. Find the smaller number.

- Ans**
- ☐ 1. 36
 - ☐ 2. 63
 - ☐ 3. 46
 - ☒ 4. 69

Q.9 A current of 1 A is drawn by a filament of an electric bulb. The number of electrons passing through a cross-section of the filament in 8 mins would be equal to _____.

- (Given, charge of electron (e) is equal to 1.6×10^{-19} C)
- Ans**
- ☐ 1. 3×10^{20}
 - ☒ 2. 3×10^{21}
 - ☐ 3. 3×10^{19}
 - ☐ 4. 3×10^{22}

Q.10 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 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**
- ☒ 1. RM-OT
 - ☐ 2. LG-IM
 - ☐ 3. JE-GK
 - ☐ 4. SN-PT

Q.11 In an election between two candidates, one candidate got 38% of the votes and yet lost by 7200 votes. If all the votes polled were valid, then the total number of votes cast in the election was:

- Ans**
- ☒ 1. 13,800
 - ☒ 2. 13,000
 - ☒ 3. 16,200
 - ☒ 4. 30,000

Q.12 Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?

FRE, HTD, JVC, LXB, ?

- Ans**
- ☒ 1. NZA
 - ☒ 2. MZA
 - ☒ 3. OYA
 - ☒ 4. MYA

Q.13 What will come in the place of the question mark '?' in the following equation, if '+' and '-' are interchanged and '×' and '÷' are interchanged?

$$10 \times 5 - 13 + 4 \div 3 = ?$$

- Ans**
- ☒ 1. 11
 - ☒ 2. 3
 - ☒ 3. 6
 - ☒ 4. 7

Q.14 If $2^K \times 4^{12} = 16^{11}$, then the value of K is:

- Ans**
- ☒ 1. 20
 - ☒ 2. 16
 - ☒ 3. 10
 - ☒ 4. 24

Q.15 In July 2024, Charaideo Maidam was included in the UNESCO World Heritage Site list in the cultural category. In which of the following states is it located?

- Ans**
- ☒ 1. West Bengal
 - ☒ 2. Bihar
 - ☒ 3. Odisha
 - ☒ 4. Assam

Q.16 The tissue which makes the plant hard and stiff and provides strength to the plant parts is the:

- Ans**
- ☒ 1. sclerenchyma
 - ☒ 2. chlorenchyma
 - ☒ 3. aerenchyma
 - ☒ 4. collenchyma

Q.17 B, C, D, E, F, G and K are sitting around a circular table, facing the centre. Only two people sit between F and K when counted from the right of F. Only two people sit between K and C. Only three people sit between F and D. B sits to the immediate left of G.

Who sits third to the left of E?

- Ans**
- ☒ 1. G
 - ☐ 2. F
 - ☐ 3. B
 - ☐ 4. K

Q.18 Which of the following is equal to 1 Ohm (If V and A are volt and ampere, respectively)?

- Ans**
- ☐ 1. $1V/2A$
 - ☐ 2. $1V * 1A$
 - ☒ 3. $1V/1A$
 - ☐ 4. $1A/1V$

Q.19 A constant force of 4 N acts on a box of mass 2 kg for a duration of 2 s. If its initial velocity is 2 m/s, then the final velocity of this box will be:

- Ans**
- ☒ 1. 6 m/s
 - ☐ 2. 2 m/s
 - ☐ 3. 3 m/s
 - ☐ 4. 4 m/s

Q.20 Which of the following statements is/are correct related to eco-system?

- (i) UV radiation is not damaging to organisms.
- (ii) Ozone at the higher levels of the atmosphere is a product of UV radiation acting on oxygen molecule.
- (iii) The amount of ozone in the atmosphere began to drop sharply in 1980.

- Ans**
- ☒ 1. Only (ii) and (iii)
 - ☐ 2. (i), (ii) and (iii)
 - ☐ 3. Only (i) and (ii)
 - ☐ 4. Only (i)

Q.21 Select the correct IUPAC names for CH_3COCH_3 and C_2H_5OH compounds, respectively.

- Ans**
- ☐ 1. Propanoic acid and ethanol
 - ☒ 2. Propanone and ethanol
 - ☐ 3. Propanone and methanol
 - ☐ 4. Ethanol and propanone

Q.22 A and B can do a piece of work in 6 days and 8 days, respectively. With the help of C, they completed the work in 3 days and earned ₹3,848. What was the share of C?

- Ans**
- ☒ 1. ₹481
 - ☐ 2. ₹1,693
 - ☐ 3. ₹1,443
 - ☐ 4. ₹861

Q.23 The chemical reaction $\text{Fe(s)} + \text{CuSO}_4\text{(aq)} \rightarrow \text{FeSO}_4\text{(aq)} + \text{Cu(s)}$ represents which type of reaction?

- Ans**
- ☐ 1. Combination reaction
 - ☐ 2. Combustion reaction
 - ☒ 3. Displacement reaction
 - ☐ 4. Double Displacement reaction

Q.24 Which of the following is an example of a mixture?

- Ans**
- ☐ 1. Salt (NaCl)
 - ☐ 2. Water (H₂O)
 - ☐ 3. Iron (Fe)
 - ☒ 4. Air

Q.25 Who presented the Union Budget 2024-25 in the Parliament on 23 July 2024?

- Ans**
- ☐ 1. Shri Ashwini Vaishnaw
 - ☒ 2. Ms. Nirmala Sitharaman
 - ☐ 3. Shri Shaktikanta Das
 - ☐ 4. Shri Bhupender Yadav

Q.26 A box full of dry fruits weighs 12.650 kg. If the weight of the dry fruits is 9 kg 800 g, the weight of the empty box is:

- Ans**
- ☐ 1. 2825 g
 - ☒ 2. 2850 g
 - ☐ 3. 2750 g
 - ☐ 4. 2725 g

Q.27 96 is divided into two parts in such a way that a seventh part of the first and a ninth part of the second are equal. Find the larger part.

- Ans**
- ☐ 1. 42
 - ☐ 2. 38
 - ☐ 3. 48
 - ☒ 4. 54

Q.28 The atomic number of phosphorus atom is:

- Ans**
- ☐ 1. 17
 - ☐ 2. 14
 - ☐ 3. 16
 - ☒ 4. 15

Q.29 IEMJ is related to GCKH in a certain way based on the English alphabetical order. In the same way, MIQN is related to KGOL. To which of the following options is PLTQ related, following the same logic?

- Ans**
- ☒ 1. NJRO
 - ☐ 2. JNOR
 - ☐ 3. JNRO
 - ☐ 4. NJOR

Q.30 Which of the following is divisible by 2, 3, and 5?

- Ans**
- ☐ 1. 2240
 - ☐ 2. 54332
 - ☒ 3. 3150
 - ☐ 4. 14175

Q.31 Seven boxes, A, B, C, D, E, F and G, are kept one over the other but not necessarily in the same order. F is kept second from the bottom. Only three boxes are kept between F and E. D is kept at one of the positions below F. Only A is kept between E and C. B is kept at one of the positions above E. How many boxes are kept between E and D?

- Ans**
- ☐ 1. 1
 - ☐ 2. 3
 - ☒ 3. 4
 - ☐ 4. 2

Q.32 Which of the following options should come in place of the question mark (?) in the given series to make it logically complete?

351, 380, 413, 450, 491, ?

- Ans**
- ☒ 1. 536
 - ☐ 2. 530
 - ☐ 3. 512
 - ☐ 4. 541

Q.33 Chlorination of alkane is an example of:

- Ans**
- ☐ 1. addition reaction
 - ☐ 2. rearrangement reaction
 - ☐ 3. both addition and substitution chain reaction
 - ☒ 4. substitution reaction

Q.34 A right circular cylindrical tunnel of diameter 2 m and length 40 m is to be constructed from a sheet of iron. The area of the iron sheet required in m^2 , is:

- Ans**
- ☒ 1. 80π
 - ☐ 2. 160π
 - ☐ 3. 200π
 - ☐ 4. 40π

Q.35 A sum when invested at $12\frac{1}{2}\%$ simple interest per annum amounts to ₹17,500 after 2 years. What is the simple interest?

- Ans**
- ☐ 1. ₹3,700
 - ☐ 2. ₹3,450
 - ☐ 3. ₹3,650
 - ☒ 4. ₹3,500

Q.36 Plant cells change shape by changing the amount of _____ in them, resulting in swelling or shrinking, and therefore in changing shapes.

- Ans**
- ☐ 1. chlorophyll
 - ☐ 2. fat
 - ☒ 3. water
 - ☐ 4. carbon dioxide

Q.37 The phenomenon of scattering of light by the colloidal particles gives rise to:

- Ans**
- ☐ 1. delay in sunset
 - ☒ 2. Tyndall effect
 - ☐ 3. rainbow
 - ☐ 4. twinkling of stars

Q.38 What will be the atomicity of oxygen and phosphorous?

- Ans**
- ☐ 1. Diatomic and monoatomic
 - ☐ 2. Diatomic and diatomic
 - ☒ 3. Diatomic and tetra-atomic
 - ☐ 4. Diatomic and triatomic

Q.39 What should be subtracted from $\frac{-5}{6}$ to get 1?

- Ans**
- ☐ 1. $\frac{7}{6}$
 - ☐ 2. $\frac{-7}{6}$
 - ☐ 3. $\frac{-1}{6}$
 - ☒ 4. $\frac{-11}{6}$

Q.40 Which of the following options does NOT represent a characteristic of solids?

- Ans**
- ☐ 1. Solids have a definite shape.
 - ☐ 2. Solids have negligible compressibility.
 - ☐ 3. Solids have fixed volume.
 - ☒ 4. Solids have indistinct boundaries.

Q.41 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?

$$14 \text{ A } 2 \text{ B } 6 \text{ D } 20 \text{ C } 5 = ?$$

- Ans**
- ☐ 1. 30
 - ☐ 2. 25
 - ☐ 3. 28
 - ☒ 4. 22

Q.42 In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. Which numbers should replace X and Y so that the pattern followed by the two numbers on the left side of :: is the same as that on the right side of ::?

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

- X : 65 :: 15 : Y
- Ans
- ✗ 1. X = 19, Y = 85
 - ✗ 2. X = 12, Y = 75
 - ✓ 3. X = 12, Y = 80
 - ✗ 4. X = 19, Y = 80

Q.43 5 cm ஆரம் மற்றும் 7 cm உயரம் கொண்ட திண்ம உருளையின் ஒரு முனையினுள், 3 cm ஆரம் மற்றும் 2 cm ஆழம் கொண்ட ஒரு உருளை வடிவ குழிவானது உருவாக்கப்படுகிறது. எனில் உருவாக்கப்பட்டு, கிடைக்கப்பெற்ற திண்மத்தின் மொத்த புறப்பரப்பளவை (cm^2 இல்) கண்டறியவும்.

- Ans
- ✗ 1. 126π
 - ✗ 2. 107π
 - ✗ 3. 82π
 - ✓ 4. 132π

Q.44 What is the unit of refractive index?

- Ans
- ✓ 1. Unitless
 - ✗ 2. m/s
 - ✗ 3. m/s^2
 - ✗ 4. m^3

Q.45 பின்வரும் கூற்றுகளில் எது/எவை, சுற்றுச்சூழல் அமைப்பு குறித்து சரியானது/சரியானவை?

(i) மக்காத பொருள் சுற்றுச்சூழல் அமைப்பின் பல்வேறு உறுப்பினர்களுக்கு தீங்கு விளைவிக்கிறது.

(ii) மக்காத பொருட்கள் உயிரியல் செயல்முறைகளால் சிதைவடைகின்றன.

(iii) மக்காத பொருட்கள் சுற்றுச்சூழலில் எப்போதும் நிலைக்காது.

- Ans
- ✗ 1. (i) மற்றும் (ii) மட்டும்
 - ✗ 2. (ii) மற்றும் (iii) மட்டும்
 - ✓ 3. (i) மட்டும்
 - ✗ 4. (i), (ii) மற்றும் (iii)

Q.46 Refer to the given series and answer the question that follows (all numbers are single-digit numbers only).

(Left) 7 2 1 5 7 6 8 9 7 6 4 9 8 1 6 5 9 5 8 6 2 6 9 5 4 9 6 3 0 3 (Right)

- What is the sum of the 1st digit from the left and the 7th digit from the right?
- Ans
- ✗ 1. 10
 - ✗ 2. 14
 - ✓ 3. 12
 - ✗ 4. 13

Q.47	On ____ December 2023, the National Level Programme on Anganwadi-Cum-Crèche released the Standard Operating Procedure (SOP) for the scheme in New Delhi.
Ans	✗ 1. 23rd ✗ 2. 27th ✗ 3. 29th ✓ 4. 21st
Q.48	Which of the following is/are NOT related to the phenomenon of the universal law of gravitation? (A) The motion of the moon around the earth. (B) The tides caused by the moon. (C) The motion of electron around the nucleus.
Ans	✓ 1. Only (C) ✗ 2. (A) and (B) ✗ 3. (B) and (C) ✗ 4. Only (B)
Q.49	Refer to the given series and answer the question that follows (all numbers are single-digit numbers only). (Left) 2 9 7 2 1 5 9 6 8 6 0 1 1 7 8 4 7 5 0 9 3 3 9 0 2 5 0 7 1 5 (Right) What is the sum of the 12 th digit from the left and the 7 th digit from the right?
Ans	✗ 1. 4 ✗ 2. 3 ✗ 3. 0 ✓ 4. 1
Q.50	A bought an item for ₹384 and sold it for ₹576. B bought another item for ₹1,254 and sold it for ₹1,672. What is the ratio of the gain percentage of A to the gain percentage of B?
Ans	✓ 1. $\frac{3}{2}$ ✗ 2. $\frac{3}{4}$ ✗ 3. $\frac{5}{3}$ ✗ 4. $\frac{5}{2}$
Q.51	If $\operatorname{cosec} 2\theta = \sec(\theta - 30)^\circ$, then find the measure of θ (in degrees).
Ans	✓ 1. 40 ✗ 2. 25 ✗ 3. 45 ✗ 4. 35

Q.52 Sometimes, when there is a lack of oxygen in our muscle cells, the pyruvate by anaerobic respiration is converted into:

- Ans
- ✗ 1. ethyl alcohol
 - ✗ 2. methyl alcohol
 - ✗ 3. acetic acid
 - ✓ 4. lactic acid

Q.53 Ferrous sulphate decomposes to which of the following substances?

- Ans
- ✓ 1. Ferric oxide (Fe_2O_3), sulphur dioxide (SO_2) and sulphur trioxide (SO_3)
 - ✗ 2. Ferric oxide (Fe_2O_3) and sulphur dioxide (SO_2) only
 - ✗ 3. Ferric oxide (Fe_2O_3) only
 - ✗ 4. Ferric oxide (Fe_2O_3) and sulphur trioxide (SO_3) only

Q.54 The energy possessed by a ball of mass 5 kg when it is raised to a height of 5 m above the ground is (take $g = 10 \text{ m/s}^2$):

- Ans
- ✗ 1. 10 J
 - ✗ 2. 2.5 J
 - ✗ 3. 2 J
 - ✓ 4. 250 J

Q.55 இந்த கேள்வியில், ஒரு அறிக்கையைத் தொடர்ந்து I மற்றும் II என எண்ணிடப்பட்ட இரண்டு நடவடிக்கைகள் கொடுக்கப்பட்டுள்ளது. அறிக்கையில் உள்ள அனைத்தும் உண்மை என்று நீங்கள் கருத வேண்டும் மற்றும் அறிக்கையில் கொடுக்கப்பட்டுள்ள தகவலின் அடிப்படையில், தர்க்கரீதியாக எந்த நடவடிக்கை(கள்) பின்பற்றுகிறது/கின்றன என்பதைத் தீர்மானிக்கவும்.

அறிக்கை:

ஒரு நிறுவனத்தில் ஊழியர்களின் அதிகரிப்பு இருந்தபோதிலும், ஒரு டஜன் வழக்கமான நிரல்களை நடத்தத் தவறியதற்காகவும், ஆய்வுகள் மற்றும் ஆராய்ச்சிக்கான ஒரு திடமான செயல் திட்டத்தை உருவாக்கத் தவறியதற்காகவும், அந்த நிறுவனமானது குழுவின் ஆய்வுக்கு உட்படுத்தப்பட்டுள்ளது.

நடவடிக்கைகள்:

- I. நடைமுறை சாத்தியமுள்ள செயல் திட்டத்தை செயல்படுத்த, நிறுவனத்தின் மேலான நோக்கங்கள் மறுவரையறை செய்யப்பட வேண்டும்.
- II. திட்டமிடப்பட்ட நிரல்ககள் நிறைவேற்றப்படுவதைத் தடுக்கும் காரணிகள் பற்றிய அறிக்கையை நிறுவனம் வழங்க வேண்டும்.

- Ans
- ✓ 1. I மற்றும் II இரண்டும் பின்பற்றுகின்றன
 - ✗ 2. II மட்டும் பின்பற்றுகிறது
 - ✗ 3. I மட்டும் பின்பற்றுகிறது
 - ✗ 4. I அல்லது II ஆகிய எதுவும் பின்பற்றவில்லை

Q.56 Evaluate the given expression.

$$\left(\frac{1}{64}\right)^{(-1/3)}$$

- Ans
- ☐ 1. 2
 - ☐ 2. 4^{-1}
 - ☐ 3. 2^{-1}
 - ☒ 4. 4

Q.57 Which of the following were found as dominant traits by Mendel in his experiment with pea plants?

- Ans
- ☒ 1. Tall plant and round seed
 - ☐ 2. Short plant and round seed
 - ☐ 3. Short plant and wrinkled seed
 - ☐ 4. Tall plant and wrinkled seed

Q.58 KPNS is related to QVTY in a certain way based on the English alphabetical order. In the same way, HMKP is related to NSQV. To which of the following options is DIGL related, following the same logic?

- Ans
- ☐ 1. OJMR
 - ☐ 2. JORM
 - ☐ 3. OJRM
 - ☒ 4. JOMR

Q.59 Refer to the given series and answer the question that follows (all numbers are single-digit numbers only, and all counting is to be done from left to right).

(Left) 4 4 9 6 8 1 3 9 4 9 8 8 4 3 9 8 5 7 2 6 5 6 9 2 8 4 8 9 5 5 (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
- ☐ 1. 5
 - ☐ 2. 0
 - ☒ 3. 4
 - ☐ 4. 3

Q.60 Gopi starts from Point A and drives 100 km towards East. He then takes a left turn, drives 55 km, turns left and drives 75 km. He then takes a left turn and drives 45 km. He takes a final right turn, drives 25 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 degree turns only unless otherwise specified.)

- Ans
- ☐ 1. 8 km towards South
 - ☐ 2. 8 km towards North
 - ☐ 3. 10 km towards North
 - ☒ 4. 10 km towards South

Q.61 For the first time in the General Elections 2024, which facility has been extended pan-India for only senior citizens and Persons with Disabilities?

- Ans
- ☐ 1. Online voting
 - ☒ 2. Home voting
 - ☐ 3. Postal voting
 - ☐ 4. Early voting

Q.62 In the digestive system, which of the following releases hydrochloric acid, a protein digesting enzyme called pepsin, and mucus?

- Ans**
- ☐ 1. Pancreas
 - ☐ 2. Gall bladder
 - ☒ 3. Gastric glands
 - ☐ 4. Salivary glands

Q.63 Simplify the following expression:

$$9994 \times 10006$$

- Ans**
- ☐ 1. 99999976
 - ☐ 2. 9999924
 - ☒ 3. 99999964
 - ☐ 4. 91999924

Q.64 Two people drive towards each other from two places which are 56 km apart. The speed of the first person is 12 km/h and speed of the other is 13 km/h. After how long will they be 6 km apart if they start driving together?

- Ans**
- ☐ 1. 1 hour 30 minutes
 - ☒ 2. 2 hours
 - ☐ 3. 1 hour
 - ☐ 4. 2 hours 10 minutes

Q.65 Who was awarded the Vigyan Ratna - 2024 for contributions in the field of Biological Sciences?

- Ans**
- ☐ 1. Dr. Ramesh Sharma
 - ☒ 2. Prof. Govindarajan Padmanabhan
 - ☐ 3. Dr. Swati Nayak
 - ☐ 4. Dr. Aditi Sen De

Q.66 Anu is two years older than Kanu, who is twice as old as Tanu. If the total of their ages is 32, then what is the age of Kanu?

- Ans**
- ☐ 1. 8 years
 - ☐ 2. 7 years
 - ☒ 3. 12 years
 - ☐ 4. 14 years

Q.67 Hydrophobic end and hydrophilic end of soap molecule:

- Ans**
- ☐ 1. interacts with hydrocarbons and interacts with base, respectively
 - ☐ 2. interacts with water and interacts with hydrocarbons, respectively
 - ☒ 3. interacts with hydrocarbons and interacts with water, respectively
 - ☐ 4. interacts with water and interacts with acid, respectively

Q.68 What is the value of 1 kWh in Joule(J)?

- Ans**
- ☐ 1. 3.6×10^5
 - ☐ 2. 3.6×10^{-5}
 - ☒ 3. 3.6×10^6
 - ☐ 4. 3.6

Q.69 In a college entrance test, the average marks obtained by all 30 boys of the class is 5 less than the average marks obtained by all 20 girls of the class. If the average marks of the whole class are 25, then find the ratio of average marks of boys to that of girls.

- Ans**
- ☐ 1. 41 : 32
 - ☒ 2. 23 : 28
 - ☐ 3. 32 : 41
 - ☐ 4. 28 : 23

Q.70 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**
- ☐ 1. AGM
 - ☐ 2. DJP
 - ☒ 3. MUI
 - ☐ 4. SYE

Q.71 Read the given statements and conclusions carefully. You have to take the given statements to be true even if they seem to be at variance from commonly known facts and decide which conclusion(s) logically follow(s) from the given statements.

Statements:

Some files are photos.

All photos are pictures.

Conclusions:

(I) No pictures are files.

(II) Some pictures are files.

- Ans**
- ☒ 1. Only conclusion (II) follows
 - ☐ 2. Only conclusion (I) follows
 - ☐ 3. Both conclusions (I) and (II) follow
 - ☐ 4. Neither conclusion (I) nor (II) follows

Q.72 If A earns $33\frac{1}{3}\%$ more than B, then B earns less than A by:

- Ans**
- ☒ 1. 25%
 - ☐ 2. $16\frac{2}{3}\%$
 - ☐ 3. $33\frac{1}{3}\%$
 - ☐ 4. 50%

Q.73 Which of the following organisms is commonly referred to as bread mould?

- Ans**
- ☐ 1. Spirogyra
 - ☐ 2. Planaria
 - ☒ 3. Rhizopus
 - ☐ 4. Yeast

Q.74 In which simple multi-cellular organism does sporangia develop on hyphae and spore formation occurs in sporangia?

- Ans**
- ☐ 1. Yeast
 - ☐ 2. Amoeba
 - ☐ 3. Leishmania
 - ☒ 4. Rhizopus

Q.75 The roots of a plant always grow downwards while the shoots usually grow upwards and away from the earth. This upward and downward growth of shoots and roots is known as:

- Ans**
- ☒ 1. geotropism
 - ☐ 2. hydrotropism
 - ☐ 3. phototropic movement
 - ☐ 4. chemotropism

Q.76 D, E, F, G, L, M and N are sitting around a circular table facing the centre. Only one person sits between L and E when counted from the left of E. G sits third to the right of N. M sits third to the left of F. G sits to the immediate right of M. D is not an immediate neighbour of M. How many people sit between D and E when counted from the right of D?

- Ans**
- ☐ 1. Four
 - ☐ 2. Two
 - ☒ 3. Three
 - ☐ 4. One

Q.77 The 38th Maharashtra State Junior Athletics Championships was held in _____ .

- Ans**
- ☐ 1. Nashik
 - ☒ 2. Pune
 - ☐ 3. Mumbai
 - ☐ 4. Nagpur

Q.78 There are dead tissues in the _____ .

- Ans**
- ☐ 1. banana peel
 - ☐ 2. orange peel
 - ☐ 3. guava peel
 - ☒ 4. coconut husk

Q.79 In a certain code language, 'metro city transport' is coded as 'qi de pu' and 'train national transport' is coded as 'la qi ti'. What is the code for 'transport' in the given code language?

- Ans**
- ☐ 1. pu
 - ☐ 2. de
 - ☐ 3. la
 - ☒ 4. qi

Q.80 In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. Which numbers should replace X and Y so that the pattern followed by the two numbers on the left side of :: is the same as that on the right side of ::?

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

X : 59 :: 20 : Y

- Ans**
- ☐ 1. X = 15, Y = 80
 - ☐ 2. X = 16, Y = 80
 - ☐ 3. X = 16, Y = 79
 - ☒ 4. X = 15, Y = 79

Q.81 Which statement is true for solid matter?

- Ans**
- ☐ 1. Solids do not have a definite shape, distinct boundary and fixed volume.
 - ☐ 2. Solids have only definite shape, but not fixed volume.
 - ☐ 3. Solids have only definite shape, but not distinct boundary.
 - ☒ 4. Solids have a definite shape, distinct boundary and fixed volume.

Q.82 All of the following are signals that sexual maturation is taking place, EXCEPT:

- Ans**
- ☐ 1. different patterns of hair growth
 - ☐ 2. increased size and shape of breast or penis
 - ☐ 3. girls begin to menstruate at around this time
 - ☒ 4. blue colour of eyes

Q.83 Find the fourth proportional of 24, 8 and 9.

- Ans**
- ☐ 1. 9
 - ☐ 2. 24
 - ☒ 3. 3
 - ☐ 4. 8

Q.84 The 8th edition of India-Kazakhstan Joint Military Exercise KAZIND-2024 was held in _____.

- Ans**
- ☐ 1. Pune, Maharashtra
 - ☐ 2. Shillong, Meghalaya
 - ☒ 3. Auli, Uttarakhand
 - ☐ 4. Jaisalmer, Rajasthan

Q.85 An object with a mass of 10 kg is moving with an initial velocity of 3 m/s and its final velocity becomes 5 m/s. Then the change in its kinetic energy is:

- Ans**
- ☐ 1. 160 J
 - ☐ 2. 40 J
 - ☐ 3. 50 J
 - ☒ 4. 80 J

Q.86 Which of the following is specialised for conducting information via electrical impulses from one part of the body to another?

- Ans**
- ✓ 1. Neuron
 - ✗ 2. Spinal cord
 - ✗ 3. Alveoli
 - ✗ 4. Glomerulus

Q.87 Find the simple interest on ₹800 at 7% per month in 9 months.

- Ans**
- ✗ 1. ₹514
 - ✗ 2. ₹524
 - ✗ 3. ₹534
 - ✓ 4. ₹504

Q.88 In a certain code language,

'A + B' means 'A is the sister of B',

'A - B' means 'A is the husband of B',

'A x B' means 'A is the mother of B'

and 'A ÷ B' means 'A is the son of B'.

How is M related to P if 'K ÷ L - M + N x O + P'?

- Ans**
- ✗ 1. Sister
 - ✗ 2. Mother
 - ✗ 3. Daughter
 - ✓ 4. Mother's sister

Q.89 Consider a long conducting wire carrying a current. Which of the following statements is NOT true?

- Ans**
- ✗ 1. The strength of the magnetic field increases if we increase the current.
 - ✗ 2. The magnetic field decreases as we move away from the wire.
 - ✗ 3. The magnetic field will reverse the direction if we reverse the current.
 - ✓ 4. We can use Fleming's left-hand rule to determine the direction of magnetic field.

Q.90 What price should a shopkeeper mark on an article, which costs him ₹136, to gain 20% after allowing a discount of 15%?

- Ans**
- ✗ 1. ₹162
 - ✗ 2. ₹216
 - ✗ 3. ₹224
 - ✓ 4. ₹192

Q.91 An object A with a mass m and velocity v has a kinetic energy of 100 J. Then the kinetic energy of an object B with a mass of $2m$ and velocity v is:

- Ans**
- ☐ 1. 50 J
 - ☒ 2. 200 J
 - ☐ 3. 400 J
 - ☐ 4. 300 J

Q.92 Who among the following became India's youngest Olympic medallist by winning a bronze in wrestling at the 2024 Paris Paralympics?

- Ans**
- ☒ 1. Aman Sehrawat
 - ☐ 2. Vinod Kumar
 - ☐ 3. Praveen Kumar
 - ☐ 4. Sumit Antil

Q.93 Which of the following statements is true about the free fall of an object under gravitational force?

- Ans**
- ☒ 1. The acceleration experienced by an object is independent of its mass.
 - ☐ 2. The acceleration experienced by an object is opposite to the direction of motion.
 - ☐ 3. The acceleration experienced by an object depends on its mass.
 - ☐ 4. The velocity of the object remains constant during free fall.

Q.94 The mode of the observations 2, 6, 3, 9, 5, 6, 7, 8, 4, 6, 10, 6 and 11 is:

- Ans**
- ☒ 1. 6
 - ☐ 2. 7
 - ☐ 3. 11
 - ☐ 4. 10

Q.95 If the thrust experienced by an object of area 1000 cm^2 is 50 N, then the pressure exerted on the object is:

- Ans**
- ☒ 1. 500 Pa
 - ☐ 2. 20 Pa
 - ☐ 3. 5 Pa
 - ☐ 4. 30 Pa

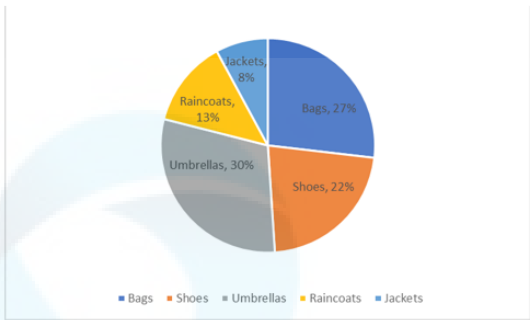
Q.96 In August 2024, who among the following was awarded the M.S. Swaminathan Award for Environment Protection 2024?

- Ans**
- ☐ 1. Rajendra Singh
 - ☐ 2. Sunita Narain
 - ☒ 3. Anant Darshan Shankar
 - ☐ 4. Sundar Lal Bahuguna

Q.97 Which of the following is the most reactive metal in the reactivity series?

- Ans**
- ☐ 1. Gold
 - ☐ 2. Zinc
 - ☒ 3. Potassium
 - ☐ 4. Sodium

Q.98 Study the following pie-chart and answer the question that follows.
The following pie chart shows the breakup of sales of the different products of Company X in the year 2022.



If the total number of items sold by the company was 1000 in 2022, what was the total number of raincoats and jackets sold by the company in the year?

Ans ☒ 1. 200
☒ 2. 230
☒ 3. 180
☒ 4. 210

Q.99 If A, B, C and D, the measures of the four angles of a quadrilateral, are in the ratio 3 : 5 : 4 : 6, then the value of 3A + 2B is:

Ans ☒ 1. 340°
☒ 2. 360°
☒ 3. 380°
☒ 4. 330°

Q.100 Read the given statements and conclusions carefully. You have to take the given statements to be true even if they seem to be at variance from commonly known facts and decide which conclusion(s) logically follow(s) from the given statements.

Statements:

All laptops are speakers.

All speakers are mics.

Conclusions:

(I) At least some speakers are laptops.

(II) All laptops are mics.

Ans ☒ 1. Both conclusions I and II follow
☒ 2. Neither conclusion I nor II follows
☒ 3. Only conclusion II follows
☒ 4. Only conclusion I follows