



# रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARDS



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

Test Date	24/12/2024
Test Time	4:30 PM - 6:00 PM
Subject	RRB Technicians Grade III

\* Note

Correct Answer will carry 1 mark per Question.

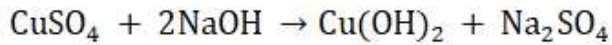
Incorrect Answer will carry 1/3 Negative mark per Question.

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 following equation is an example of which type of reaction?



- Ans
- ☒ 1. Neutralisation reaction
  - ☒ 2. Combination reaction
  - ☒ 3. Double displacement reaction
  - ☒ 4. Combustion reaction

Q.2  $75 \times 75 - 2 \times 75 \times 25 + 25 \times 25$  is equal to:

- Ans
- ☒ 1. 10000
  - ☒ 2. 6250
  - ☒ 3. 7500
  - ☒ 4. 2500

Q.3 Two pipes A and B can fill a tank in 15 minutes and 20 minutes, respectively. Both the pipes are opened together but after 4 minutes, pipe A is turned off. What is the total time required to fill the tank?

- Ans
- ☒ 1. 12 min 30 sec
  - ☒ 2. 10 min 20 sec
  - ☒ 3. 14 min 40 sec
  - ☒ 4. 11 min 45 sec

Q.4 Seven boxes A, B, C, L, X, Y and Z are kept one over the other but not necessarily in the same order. A is kept immediately above B. Z is kept immediately above C. Only X is kept above Y. Only two boxes are kept above A. Z is not kept at third position from the bottom.

How many boxes are kept between L and X?

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

**Q.5** Involuntary actions including blood pressure, salivation and vomiting are controlled by:

- Ans**
- ☐ 1. only the spinal cord
  - ☒ 2. the medulla in the hind-brain
  - ☐ 3. the cerebellum in the fore-brain
  - ☐ 4. only the heart

**Q.6** A cart is moving with a uniform velocity and a retarding force  $F$  is applied in the opposite direction to stop the cart. The work done by the force is:

- Ans**
- ☐ 1. positive
  - ☐ 2. zero
  - ☐ 3. undetermined
  - ☒ 4. negative

**Q.7** How many seconds will a train of 100 m long take to cross a bridge of 150 m long if the speed of the train is 36 km/h?

- Ans**
- ☐ 1. 20
  - ☒ 2. 25
  - ☐ 3. 18
  - ☐ 4. 30

**Q.8** Animals like hydra and planaria can be cut into any number of pieces and each piece grows into a complete organism. This is known as:

- Ans**
- ☒ 1. regeneration
  - ☐ 2. binary fission
  - ☐ 3. budding
  - ☐ 4. fragmentation

**Q.9** Which of the following forces is responsible for the tides, due to the Moon and the Sun?

- Ans**
- ☐ 1. Electromagnetic force
  - ☐ 2. Nuclear force
  - ☒ 3. Gravitation force
  - ☐ 4. Electrostatic force

**Q.10** If the radius of a circle is decreased by 50%, its area is reduced by:

- Ans**
- ☐ 1. 33.33%
  - ☐ 2. 25%
  - ☒ 3. 75%
  - ☐ 4. 50%

**Q.11** If A means +, B means -, C means  $\times$ , D means  $\div$ , then what will come in place of the question mark (?) in the following equation?

$$25 \text{ B } 3 \text{ C } 4 \text{ A } 30 \text{ D } 6 = ?$$

- Ans**
- ☐ 1. 20
  - ☐ 2. 17
  - ☐ 3. 19
  - ☒ 4. 18

**Q.12** P, Q, R, S, T, U, and V are sitting around a circular table facing the centre. T is not an immediate neighbour of P. Only 3 people sit between P and R when counted from the right of P. V sits immediately to the left of S. Q sits 2<sup>nd</sup> to the left of R. Who sits 2<sup>nd</sup> to the left of T?

- Ans**
- ☐ 1. P
  - ☐ 2. S
  - ☐ 3. V
  - ☒ 4. U

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

$$7 \div 3 + 15 - 28 \times 7 = ?$$

- Ans**
- ☒ 1. 10
  - ☐ 2. 100
  - ☐ 3. 70
  - ☐ 4. 40

**Q.14** Refer to the given series and answer the question that follows (all numbers are single-digit numbers only).

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

What is the sum of the 8<sup>th</sup> digit from the left and the 1<sup>st</sup> digit from the right?

- Ans**
- ☐ 1. 17
  - ☐ 2. 16
  - ☒ 3. 14
  - ☐ 4. 11

**Q.15** An athlete is moving with uniform speed in a circular track of radius R, and he completes one round in t s. The speed of the athlete is:

- Ans**
- ☐ 1.  $\frac{\pi R}{t}$
  - ☒ 2.  $\frac{2\pi R}{t}$
  - ☐ 3.  $\frac{\pi R}{2t}$
  - ☐ 4.  $\frac{3\pi R}{t}$

**Q.16** Simplify  $1.\overline{24}$  as an improper fraction.

- Ans**
- ☐ 1.  $\frac{123}{90}$
  - ☐ 2.  $\frac{91}{90}$
  - ☐ 3.  $\frac{124}{99}$
  - ☒ 4.  $\frac{41}{33}$

Q.17 From the given following metals, which one is least reactive towards displacement reaction?

Copper, iron, zinc and lead.

- Ans
- ☐ 1. Lead
  - ☒ 2. Copper
  - ☐ 3. Iron
  - ☐ 4. Iron and zinc

Q.18 The mean proportional between 0.06 and 24 is:

- Ans
- ☐ 1. 0.012
  - ☐ 2. 12
  - ☐ 3. 0.12
  - ☒ 4. 1.2

Q.19 Which of the following symptoms is related to myopia?

- Ans
- ☐ 1. A person cannot see both nearby and distant objects distinctly.
  - ☒ 2. A person can see nearby objects clearly but cannot see distant objects distinctly.
  - ☐ 3. A person can see distant objects clearly but cannot see nearby objects distinctly.
  - ☐ 4. A person can see both nearby and distant objects distinctly.

Q.20 Select the correct chemical reaction that represents the chlor-alkali process.

- Ans
- ☐ 1.  $2\text{KCl}(\text{aq}) + 2\text{H}_2\text{O}(\text{l}) \rightarrow 2\text{KOH}(\text{aq}) + \text{Cl}_2(\text{g}) + \text{H}_2(\text{g})$
  - ☐ 2.  $2\text{CaCl}_2(\text{aq}) + 2\text{H}_2\text{O}(\text{l}) \rightarrow 2\text{Ca}(\text{OH})_2(\text{aq}) + \text{Cl}_2(\text{g}) + \text{H}_2(\text{g})$
  - ☒ 3.  $2\text{NaCl}(\text{aq}) + 2\text{H}_2\text{O}(\text{l}) \rightarrow 2\text{NaOH}(\text{aq}) + \text{Cl}_2(\text{g}) + \text{H}_2(\text{g})$
  - ☐ 4.  $2\text{MgCl}_2(\text{aq}) + 2\text{H}_2\text{O}(\text{l}) \rightarrow 2\text{Mg}(\text{OH})_2(\text{aq}) + \text{Cl}_2(\text{g}) + \text{H}_2(\text{g})$

Q.21 In  $\triangle ABC$  if  $\angle A = 70^\circ$  and  $\angle B = 70^\circ$ , find the measure of exterior angle A.

- Ans
- ☒ 1.  $110^\circ$
  - ☐ 2.  $70^\circ$
  - ☐ 3.  $30^\circ$
  - ☐ 4.  $140^\circ$

Q.22 Which of the following statements is correct for a heterogeneous mixture?

- Ans
- ☐ 1. A clear solution is called a heterogeneous mixture.
  - ☒ 2. The composition of the mixture is non-uniform.
  - ☐ 3. Mixtures don't contain physically distinct parts.
  - ☐ 4. The composition of the mixture is uniform.



**Q.23** An object is displaced horizontally because of the applied force. What is revealed by this action?

- Ans**
- ☒ 1. Work is done by the force.
  - ☐ 2. The force decreases the mass of the object.
  - ☐ 3. The force increases the inertia of the object.
  - ☐ 4. The force increases the mass of the object.

**Q.24** A solid metallic sphere of radius 12 cm is melted and recast into 27 identical spheres. What is the ratio of the surface area of the original sphere to the total surface area of 8 smaller spheres so formed?

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

**Q.25** Which of the following is INCORRECT about plant hormones?

- Ans**
- ☒ 1. All plant hormones except cytokinins promote cell division.
  - ☐ 2. All plant hormones except abscisic acid help in promoting growth.
  - ☐ 3. Different plant hormones help to coordinate growth and development.
  - ☐ 4. Different plant hormones help to coordinate responses to the environment.

**Q.26** The Carriage of Goods by Sea Bill, 2024, was introduced in the Lok Sabha on \_\_\_\_.

- Ans**
- ☐ 1. 6 August 2024
  - ☒ 2. 9 August 2024
  - ☐ 3. 7 August 2024
  - ☐ 4. 8 August 2024

**Q.27** According to the laws of refraction, which of the following is/are true?

(A) The incident ray, the refracted ray and the normal to the interface of two transparent media do not lie in the same plane.

(B) For a given colour of light and a given pair of media, the ratio of the sine of angle of incidence to sine of angle of refraction is a constant.

- Ans**
- ☐ 1. 'A' is true and 'B' is false.
  - ☒ 2. 'A' is false and 'B' is true.
  - ☐ 3. Both 'A' and 'B' are false.
  - ☐ 4. Both 'A' and 'B' are true.

**Q.28** The refractive index is related to:

- Ans**
- ☐ 1. the frequency of light in two different media
  - ☐ 2. the dielectric polarizability of two media
  - ☒ 3. the speed of propagation of light in two different media
  - ☐ 4. the magnetic moment of two different media

**Q.29** The weight of an object was 60 N when measured on the surface of the earth.

What would be its weight when measured on the surface of the moon?

- Ans**
- ☒ 1. 10 N
  - ☐ 2. 60 N
  - ☐ 3. 39 N
  - ☐ 4. 30 N

**Q.30** The square root of 0.0009 is:

- Ans**
- ☒ 1. 0.03
  - ☐ 2. 0.81
  - ☐ 3. 0.27
  - ☐ 4. 0.003

**Q.31** The Reserve Bank of India (RBI) announced its monetary policy on 9<sup>th</sup> October 2024, maintaining the repo rate at \_\_\_\_\_.

- Ans**
- ☒ 1. 6.5%
  - ☐ 2. 6.25%
  - ☐ 3. 7.5%
  - ☐ 4. 6.75%

**Q.32** Which organisation has partnered with Sagar Defence to develop India's first underwater-launched unmanned aerial vehicles (UAVs)?

- Ans**
- ☒ 1. DRDO
  - ☐ 2. Bharat Electronics Limited (BEL)
  - ☐ 3. ISRO
  - ☐ 4. Indian Navy

**Q.33** The aperture of a spherical mirror is:

- Ans**
- ☐ 1. the distance between the object and the mirror
  - ☐ 2. the distance between the centre of curvature and the focus
  - ☒ 3. the diameter of the reflecting surface of the mirror
  - ☐ 4. the distance between the image and the mirror

**Q.34** Namya got married 6 years ago. Now her age is  $1\frac{1}{4}$  times her age at the time of marriage. Her son's present age is one-fifth of her present age. Find her son's present age.

- Ans**
- ☐ 1. 12 years
  - ☐ 2. 5 years
  - ☒ 3. 6 years
  - ☐ 4. 20 years

**Q.35** In a certain code language, 'exercise good health' is coded as 'ni ch tu' and 'exercise improve stamina' is coded as 'pa qi ch'. What is the code for 'exercise' in the given code language?

- Ans**
- ☐ 1. ni
  - ☐ 2. tu
  - ☐ 3. pa
  - ☒ 4. ch

**Q.36** Rita, Suman, Tarun, Uma, Victor and Wendy are sitting around a circular table facing the centre. Rita sits third to the right of Suman. Tarun sits second to left of Suman. Uma sits to the immediate left of Rita. Victor is not an immediate neighbour of Tarun.

How many people sit between Suman and Victor when counted from the right of Suman ?

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

**Q.37** Who is the current Directorate General of National Cadet Corps of India as of October 2024?

- Ans**
- ☐ 1. Bikram Singh
  - ☐ 2. Manoj Pande
  - ☐ 3. Dalbir Singh Suhag
  - ☒ 4. Gurbirpal Singh

**Q.38**  $\frac{3}{20}$  is what percentage of  $\frac{12}{25}$  ?

- Ans**
- ☒ 1. 31.25%
  - ☐ 2. 35.50%
  - ☐ 3. 40.50%
  - ☐ 4. 42.75%

**Q.39** What will be the name of product that is formed when metals react with air?

- Ans**
- ☐ 1. Metal hydride
  - ☒ 2. Metal oxide
  - ☐ 3. Metal chloride
  - ☐ 4. Metal nitrate

**Q.40** There is a leak at the bottom of a cistern. Due to this it takes 8 hours to fill the cistern. Had there not been a leak, it would have taken one hour less to fill the cistern. How much time does it take for the leak to completely empty the cistern?

- Ans**
- ☒ 1. 56 hours
  - ☐ 2. 15 hours
  - ☐ 3. 48 hours
  - ☐ 4.  $55\frac{1}{3}$  hours

**Q.41** 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 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.)

(15, 5, 10)

(24, 8, 16)

- Ans**
- ☐ 1. (39, 13, 24)
  - ☐ 2. (36, 13, 26)
  - ☐ 3. (39, 11, 26)
  - ☒ 4. (39, 13, 26)

**Q.42** Burning of coal is an example of which type of chemical reaction?

- Ans**
- ☐ 1. Reduction reaction
  - ☐ 2. Decomposition reaction
  - ☐ 3. Double decomposition reaction
  - ☒ 4. Combination reaction

**Q.43** The magnetic field lines produced inside a long current carrying solenoid is similar to that of a:

- Ans**
- ☐ 1. horseshoe magnet
  - ☐ 2. disc magnet
  - ☒ 3. bar magnet
  - ☐ 4. ring magnet

**Q.44** A bag marked at ₹80 is sold for ₹68. The rate of discount is:

- Ans**
- ☐ 1. 12%
  - ☐ 2. 20%
  - ☐ 3. 17.5%
  - ☒ 4. 15%

**Q.45** 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) 2 2 3 3 1 7 8 4 2 8 6 5 4 3 9 1 4 2 1 2 9 1 6 2 3 4 8 1 (Right)

How many such even digits are there, each of which is immediately preceded by a perfect square and immediately followed by an even digit?

(Note: 1 will be considered as a perfect square.)

- Ans**
- ☒ 1. 3
  - ☐ 2. 6
  - ☐ 3. 4
  - ☐ 4. 5

**Q.46** Match the cell organelles with their respective functions.

Cell organelles	Functions
1. Cell wall	a. Digests any foreign matter and worn-out cellular components
2. Ribosomes	b. Gives plants their structural strength
3. Lysosomes	c. Sites involved in protein manufacture
4. Golgi apparatus	d. Linked to the production of lysosomes

- Ans**
- ☒ 1. 1-b, 2-c, 3-a, 4-d
  - ☐ 2. 1-a, 2-b, 3-c, 4-d
  - ☐ 3. 1-b, 2-d, 3-c, 4-a
  - ☐ 4. 1-c, 2-a, 3-d, 4-b



**Q.47** Select the triad which follows the same pattern as that followed by the two triads given below. Both triads follow the same pattern.

IE-LH-OQ

FB-IE-LN

- Ans**
- ☐ 1. MH-OJ-RT
  - ☒ 2. LH-OK-RT
  - ☐ 3. LH-OJ-RS
  - ☐ 4. MH-OK-RS

**Q.48** 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 chocolates are pudding.

All puddings are ice creams.

Some ice creams are lollipops.

Conclusions:

(I) Some lollipops are chocolates.

(II) Some ice creams are pudding.

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

**Q.49** \_\_\_\_\_ became the first Indian to win a race at FIA Motorsport Games in October 2024.

- Ans**
- ☐ 1. Narain Karthikeyan
  - ☒ 2. Rivaan Dev Preetham
  - ☐ 3. Sundaram Karivaradhan
  - ☐ 4. Jehan Devan Daruvala

**Q.50** Refer to the given series and answer the question that follows (all numbers are single-digit numbers only).

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

What is the sum of the 15<sup>th</sup> digit from the left and the 11<sup>th</sup> digit from the right?

- Ans**
- ☒ 1. 13
  - ☐ 2. 11
  - ☐ 3. 14
  - ☐ 4. 16

**Q.51** The chemical reaction between an acid and base is termed as:

- Ans**
- ☐ 1. endothermic reaction
  - ☐ 2. decomposition reaction
  - ☐ 3. condensation reaction
  - ☒ 4. neutralisation reaction

**Q.52** The percentage profit earned by James by selling an article for ₹1,920, equals the percentage loss suffered by selling it at ₹1,500. What should be the selling price if he wants to earn 10% profit?

- Ans**
- ☐ 1. ₹4,000
  - ☒ 2. ₹1,881
  - ☐ 3. ₹7,000
  - ☐ 4. ₹2,000

**Q.53** Which of the following is produced when barium chloride reacts with sodium sulphate?

- Ans**
- ☒ 1. White precipitate of  $\text{BaSO}_4$
  - ☐ 2. Black precipitate of  $\text{BaSO}_4$
  - ☐ 3. Yellow precipitate of  $\text{BaSO}_4$
  - ☐ 4. Brown precipitate of  $\text{BaSO}_4$

**Q.54** In this question, two statements, I and II, have been given. These statements may be independent causes, or effects of independent causes or a common cause. One of the statements may be the effect of the other statement. Read both the statements and select the correct answer.

I. Martial arts like karate emphasize discipline and self-control, teaching practitioners to harness their strength for both defence and personal growth.

II. Karate is being made compulsory in every school.

- Ans**
- ☐ 1. II is the cause and I is its possible effect.
  - ☐ 2. Both I and II are effects of independent causes.
  - ☒ 3. I is the cause and II is its possible effect.
  - ☐ 4. Both I and II are independent causes.

**Q.55** Which of the following is the correct unit mass of sodium?

- Ans**
- ☒ 1. 23u
  - ☐ 2. 18u
  - ☐ 3. 11u
  - ☐ 4. 20u

**Q.56** Use of regenerative cells in the process of budding is present in:

- Ans**
- ☐ 1. Spirogyra
  - ☒ 2. Hydra
  - ☐ 3. Planaria
  - ☐ 4. Amoeba

**Q.57** 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. SVAF
  - ☐ 2. YCGK
  - ☐ 3. MQUY
  - ☐ 4. XBFJ

**Q.58** Simplify the given expression.

$$4 - 36 \div 4 + 2 \times 5$$

- Ans**
- ☐ 1. 3
  - ☐ 2. 4
  - ☐ 3. 6
  - ☒ 4. 5

**Q.59** Which of the following is the tiny blob-on-a-stick structures in fungi that are involved in reproduction?

- Ans**
- ☐ 1. Spermatogonia
  - ☒ 2. Sporangia
  - ☐ 3. Gametophyte
  - ☐ 4. Sporophyte

**Q.60** The curved surface area of a cylinder is 484 sq. cm. If height of the cylinder is 7 cm, then what is the volume of the cylinder (in cubic cm)? (Use  $\pi = \frac{22}{7}$ )

- Ans**
- ☒ 1. 2662
  - ☐ 2. 2200
  - ☐ 3. 2750
  - ☐ 4. 2650

**Q.61** Ramu is working hard to push a huge rock by applying 1N force, but the rock does not move at all. The net work done by Ramu is:

- Ans**
- ☐ 1. +1 J
  - ☐ 2. 1000 J
  - ☒ 3. 0 J
  - ☐ 4. -1 J

**Q.62** Which of the following statements is/are correct related to the eco-system?

- (i) Ozone is a molecule formed by three atoms of oxygen.
- (ii) Oxygen (O<sub>2</sub>) is essential for all aerobic forms of life.
- (iii) Ozone is non-poisonous.

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

**Q.63** In a certain code language, 'education gives knowledge' is coded as 'ta bi nu' and 'knowledge upgrades skill' is coded as 'hi nu ch'. What is the code for 'knowledge' in the given code language?

- Ans**
- ☐ 1. ta
  - ☒ 2. nu
  - ☐ 3. bi
  - ☐ 4. hi

**Q.64** The average of the first five prime numbers greater than 20 is:

- Ans**
- ☐ 1. 32.7
  - ☒ 2. 32.2
  - ☐ 3. 31.1
  - ☐ 4. 31.7

**Q.65** Find the simple interest on ₹600 at 7% per month in 9 months.

- Ans**
- ☐ 1. ₹398
  - ☐ 2. ₹334
  - ☐ 3. ₹354
  - ☒ 4. ₹378

**Q.66** Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?

EIM, HLP, KOS, NRV, ?

- Ans**
- ☐ 1. UYQ
  - ☐ 2. UQY
  - ☒ 3. QUY
  - ☐ 4. QYU

**Q.67** Which of the given substances is NOT biodegradable in nature?

- A. Vegetable peels
- B. Plastic bottles
- C. Spoilt food

- Ans**
- ☒ 1. Only B
  - ☐ 2. Both A and C
  - ☐ 3. A, B and C
  - ☐ 4. Only A

**Q.68** According to Thomson's model of an atom, an atom is compared to which of the following fruits?

- Ans**
- ☐ 1. Apple
  - ☐ 2. Mango
  - ☒ 3. Watermelon
  - ☐ 4. Banana

**Q.69** Namita starts from point A and drives 6 km towards the South. She takes two simultaneous left turns and drives 4 km and 3 km respectively. She takes a right turn and drives 2 km. She takes a final left turn and drives 3 km to reach point B. How far (shortest distance) and towards which direction should she drive to reach Point A again? (All turns are 90 degrees only unless specified.)

- Ans**
- ☒ 1. 6 km West
  - ☐ 2. 6 km South
  - ☐ 3. 4 km West
  - ☐ 4. 3 km South



**Q.70** Identify the INCORRECT statement about complex permanent tissue.

- Ans**
- ☒ 1. Cells in a complex tissue work together to perform a common function.
  - ☒ 2. Vascular bundles are a characteristic feature of complex tissues.
  - ☒ 3. Complex tissue includes parenchyma and collenchyma.
  - ☒ 4. There is more than one type of cell in a complex tissue.

**Q.71** In order to put up Rutherford's model, what type of metal foil did the scientist use?

- Ans**
- ☒ 1. Gold
  - ☒ 2. Platinum
  - ☒ 3. Palladium
  - ☒ 4. Silver

**Q.72** Which of the following options should come in place of the question mark (?) in the given series to make it logically complete?

6, 18, 30, 66, 126, ?

- Ans**
- ☒ 1. 258
  - ☒ 2. 270
  - ☒ 3. 266
  - ☒ 4. 242

**Q.73** If 63 chocolates are to be divided between A and B in the ratio 4 : 5, then how many chocolates will A get?

- Ans**
- ☒ 1. 28
  - ☒ 2. 35
  - ☒ 3. 27
  - ☒ 4. 49

**Q.74** The average weight of A, B and C is 45 kg. If the average weight of A and B be 40 kg and that of B and C be 43 kg, then the weight of B is:

- Ans**
- ☒ 1. 26 kg
  - ☒ 2. 31 kg
  - ☒ 3. 19 kg
  - ☒ 4. 23 kg

**Q.75** Which of the following carries egg from the ovary to the womb?

- Ans**
- ☒ 1. Cervix
  - ☒ 2. Vagina
  - ☒ 3. Fallopian tube
  - ☒ 4. Placenta

**Q.76** Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?  
DIN, FKP, HMR, JOT, ?

- Ans**
- ☒ 1. LQV
  - ☐ 2. KOX
  - ☐ 3. KOU
  - ☐ 4. KOV

**Q.77**  $\frac{3-4\sin^2\theta}{\cos^2\theta} + 2\tan^2\theta$

can be simplified as:

- Ans**
- ☐ 1. 0
  - ☐ 2.  $3\tan^2\theta$
  - ☒ 3.  $3 + \tan^2\theta$
  - ☐ 4. 3

**Q.78** What is the function of gustatory receptors?

- Ans**
- ☐ 1. They detect light.
  - ☐ 2. They detect smell.
  - ☒ 3. They detect taste.
  - ☐ 4. They detect sound.

**Q.79** The Indian government has allocated ₹\_\_\_\_\_ for the National Film Development Corporation in the 2024-25 budget.

- Ans**
- ☒ 1. 23 crore
  - ☐ 2. 16 crore
  - ☐ 3. 46 crore
  - ☐ 4. 36 crore

**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 : 45 :: 16 : Y

- Ans**
- ☐ 1. X = 14, Y = 85
  - ☐ 2. X = 14, Y = 75
  - ☐ 3. X = 10, Y = 65
  - ☒ 4. X = 10, Y = 75

**Q.81** If the length of a conductor is doubled, then the resistance of the conductor will be: (other parameters are kept same)

- Ans**
- ☐ 1. one fourth
  - ☒ 2. doubled
  - ☐ 3. halved
  - ☐ 4. the same

**Q.82** 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. WYU
  - ✗ 2. SNI
  - ✗ 3. LGB
  - ✗ 4. XSN

**Q.83** During the deposition procedure, which type of state conversion will take place?

- Ans**
- ✗ 1. Liquid to solid state
  - ✗ 2. Solid to liquid state
  - ✗ 3. Solid to gaseous state
  - ✓ 4. Gaseous to solid state

**Q.84** Which plant species does NOT reproduce through vegetative propagation?

- Ans**
- ✗ 1. Rose
  - ✗ 2. Banana
  - ✗ 3. Sugarcane
  - ✓ 4. Papaya

**Q.85** In a certain code language,

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

$A - B$  means 'A is the wife of B',

$A \times B$  means 'A is the father of B',

and  $A \div B$  means 'A is the brother of B'.

How is P related to T if ' $P + Q - R \times S \div T$ '?

- Ans**
- ✗ 1. Father's sister
  - ✗ 2. Mother's mother
  - ✓ 3. Mother's sister
  - ✗ 4. Father's mother

**Q.86** Considering the right-hand thumb rule, what parameter is indicated by the fingers curled around the conductor?

- Ans**
- ✗ 1. Current
  - ✓ 2. Magnetic field
  - ✗ 3. Deflection of needle
  - ✗ 4. Force

**Q.87** The sum of the two positive numbers is 55 and their difference is 19. What are the numbers?

- Ans**
- ☐ 1. 40, 15
  - ☐ 2. 36, 19
  - ☒ 3. 37, 18
  - ☐ 4. 35, 20

**Q.88** The Moidams-the Mound-Burial System of the Ahom Dynasty in \_\_\_\_\_ was added to the list of UNESCO World Heritage Sites in 2024.

- Ans**
- ☐ 1. Mizoram
  - ☐ 2. Manipur
  - ☒ 3. Assam
  - ☐ 4. Meghalaya

**Q.89** In case of a drastic change in niches of organisms, which of the following can save the population of an organism from getting completely wiped out?

- Ans**
- ☐ 1. Nutrition
  - ☐ 2. Evolution
  - ☒ 3. Variation
  - ☐ 4. Isolation

**Q.90** \_\_\_\_\_ has become the first Indian track-and-field athlete to win medals at consecutive Olympics.

- Ans**
- ☒ 1. Neeraj Chopra
  - ☐ 2. Manu Bhaker
  - ☐ 3. Swapnil Kusale
  - ☐ 4. Aman Sehrawat

**Q.91** Study the following table and answer the question.

The table depicts the number of books sold by shops A and B to males and females on Monday

Shops	Number of books sold to males	Number of books sold to females
A	71	78
B	34	40

What is the difference between the number of books sold by shops A and B to females?

- Ans**
- ☒ 1. 38
  - ☐ 2. 37
  - ☐ 3. 39
  - ☐ 4. 40



**Q.92** 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 bats are balls.

All balls are wickets.

No wickets are gloves.

Conclusions:

(I) Some balls are bats.

(II) Some wickets are balls.

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

**Q.93** By whom was the 'Ek Ped Maa Ke Naam' tree plantation campaign launched throughout the country on the World Environment Day (5<sup>th</sup> June 2024)?

- Ans**
- ☐ 1. Dr. Jitendra Singh
  - ☒ 2. Shri Narendra Modi
  - ☐ 3. Shri Bhupender Yadav
  - ☐ 4. Shri Amit Shah

**Q.94** \_\_\_\_\_ on 9 September 2024 emphasised that safety and social audits of cities and institutions should be carried out to get a better idea about the lags and issues that currently exist in terms of ensuring women's safety in India.

- Ans**
- ☐ 1. The Prajnya Trust for Women (PTW)
  - ☐ 2. The Self-Employed Women's Association (SEWA)
  - ☒ 3. The National Human Rights Commission (NHRC)
  - ☐ 4. The All India Federation of Women Lawyers (AIFWL)

**Q.95** There are two statements given below. Select the correct option with regards to these statements.

A. The loss of water in the form of vapour from the aerial parts of the plant is known as transpiration.

B. During the day when the stomata are open, the transpiration pull becomes the major driving force in the movement of water in the xylem.

- Ans**
- ☐ 1. A is incorrect and B is correct.
  - ☐ 2. A is correct and B is incorrect.
  - ☐ 3. Both A and B are incorrect.
  - ☒ 4. Both A and B are correct.

**Q.96** NSQO is related to TYWU in a certain way based on the English alphabetical order. In the same way, JOMK is related to PUSQ. To which of the following options is LQOM related, following the same logic?

- Ans**
- ☐ 1. WRSU
  - ☐ 2. WRUS
  - ☐ 3. RWSU
  - ☒ 4. RWUS

**Q.97** Neeta bought 5.5 ltr of mango juice. She and her friends consumed 3 ltr 925 ml of the juice. How much juice is left with her?

- Ans**
- ☒ 1. 1 ltr 575 ml
  - ☐ 2. 1 ltr 275 ml
  - ☐ 3. 1 ltr 375 ml
  - ☐ 4. 1 ltr 475 ml

**Q.98** A sum of money lent on simple interest becomes  $\frac{8}{5}$  of itself in 4 years. Find the rate of interest per annum.

- Ans**
- ☒ 1. 15%
  - ☐ 2. 12%
  - ☐ 3. 10%
  - ☐ 4. 6%

**Q.99** Which of the following molecules has single covalent bond?

- Ans**
- ☐ 1.  $O_2$
  - ☒ 2.  $H_2$
  - ☐ 3.  $N_2$
  - ☐ 4.  $CO_2$

**Q.100** What is the remainder when the product of 171 and 173 is divided by 17?

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