



## रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARDS

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

Test Date	28/12/2024
Test Time	12:45 PM - 2:15 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** 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 : 18.8 :: 21 : Y

- Ans**
- ☒ 1. X = 20, Y = 26.8
  - ☒ 2. X = 15, Y = 24.8
  - ☒ 3. X = 11, Y = 29.4
  - ☒ 4. X = 17, Y = 22.6

**Q.2** Which of the following statements is correct related to male reproductive system?

- Ans**
- ☒ 1. Sperm formation requires higher temperature than the normal body temperature.
  - ☒ 2. Testes are located in the abdominal cavity.
  - ☒ 3. Testes secrete testosterone hormone.
  - ☒ 4. Formation of sperm takes place in seminal vessel.

**Q.3** Rough endoplasmic reticulum looks rough under a microscope because it has particles called \_\_\_\_\_ attached to its surface.

- Ans**
- ☒ 1. chromosomes
  - ☒ 2. ribosomes
  - ☒ 3. protein particles
  - ☒ 4. lysosomes

**Q.4** If + means -, - means ×, × means ÷, and ÷ means +, then what will come in place of the question mark (?) in the following equation?

$$16 \div 96 \times 6 - 4 + 20 = ?$$

- Ans**
- ☒ 1. 60
  - ☒ 2. 56
  - ☒ 3. 54
  - ☒ 4. 50

**Q.5** The cost of 2 tables and 3 chairs is ₹540, while that of 2 tables and 1 chair is ₹470. What is the cost of 2 tables and 2 chairs combinedly?

- Ans**
- ✓ 1. ₹505
  - ✗ 2. ₹525
  - ✗ 3. ₹545
  - ✗ 4. ₹485

**Q.6** When an object is thrown upward, the force of gravity is \_\_\_\_\_.

- Ans**
- ✗ 1. Zero
  - ✓ 2. opposite to the direction of motion
  - ✗ 3. independent of direction of motion
  - ✗ 4. the same as the direction of motion

**Q.7** In November 2024, Indian Space Research Organisation (ISRO) started the country's first analogue space mission at which of the following places to simulate life in an interplanetary habitat?

- Ans**
- ✗ 1. Mount Abu
  - ✗ 2. Rameshwaram
  - ✓ 3. Leh
  - ✗ 4. Itanagar

**Q.8** The ratio of the radius of the base to the height of a cylinder is 3 : 1. If its volume is  $9702 \text{ cm}^3$ , then the curved surface area of the cylinder is: (Use  $\pi = \frac{22}{7}$ )

- Ans**
- ✗ 1.  $616 \text{ cm}^2$
  - ✗ 2.  $946 \text{ cm}^2$
  - ✗ 3.  $668 \text{ cm}^2$
  - ✓ 4.  $924 \text{ cm}^2$

**Q.9** Which of the following options should come in place of the question mark (?) in the given series to make it logically complete?

17, 20, 26, 35, 47, ?

- Ans**
- ✗ 1. 63
  - ✗ 2. 60
  - ✗ 3. 64
  - ✓ 4. 62

**Q.10** Which of the following elements is extracted by electrolysis reduction?

- Ans**
- ✗ 1. Ag
  - ✗ 2. Zn
  - ✓ 3. Na
  - ✗ 4. Pb

**Q.11** Three candidates contested in an election and received 1036, 7044 and 12,120 votes, respectively. What percentage of the total number of votes did the winning candidate get?

- Ans**
- ☒ 1. 65%
  - ☒ 2. 60%
  - ☒ 3. 90%
  - ☒ 4. 57%

**Q.12** A pipe can fill a tank in 12 hours. Another pipe can empty the filled tank in 18 hours. If both the pipes are opened simultaneously, then the time (in hours) in which the tank will be one-third filled, is:

- Ans**
- ☒ 1. 48
  - ☒ 2. 36
  - ☒ 3. 24
  - ☒ 4. 12

**Q.13** The average of the first 50 natural numbers is:

- Ans**
- ☒ 1. 25
  - ☒ 2. 25.5
  - ☒ 3. 21.25
  - ☒ 4. 12.25

**Q.14** If  $x + y = 16$  and  $xy = 48$ , find the value of  $x^2 + y^2$ .

- Ans**
- ☒ 1. 144
  - ☒ 2. 150
  - ☒ 3. 164
  - ☒ 4. 160

**Q.15** Seven people, A, B, E, F, P, Q and R, are sitting in a row, facing north. Only two people sit to the right of Q. Only two people sit between Q and B. Only two people sit between F and P. P sits to the immediate left of Q. E sits to the immediate right of R. Who sits at the third position from the left end of the row?

- Ans**
- ☒ 1. R
  - ☒ 2. P
  - ☒ 3. A
  - ☒ 4. B

**Q.16** Which of the following is a characteristic property of acids?

- Ans**
- ☒ 1. They turn red litmus paper blue.
  - ☒ 2. They turn blue litmus paper red.
  - ☒ 3. They have a pH greater than 7.
  - ☒ 4. They have a slippery feel.

**Q.17** A body is thrown up and it reaches a height of 5m and then falls down, the total displacement and the total distance covered by the body respectively would be:

- Ans**
- ☒ 1. 10m, 0m
  - ☒ 2. 0m, 0m
  - ☒ 3. 0m, 10m
  - ☒ 4. 5m, 5m

**Q.18** According to one of the laws of refraction, the \_\_\_\_\_ ray, the refracted ray and the normal to the interface of two transparent media at the point of incidence, all lie in the same plane.

- Ans**
- ☐ 1. Parallel
  - ☐ 2. Reflected
  - ☒ 3. Incident
  - ☐ 4. Emergent

**Q.19** The distance between two points on a map is 5 cm. The scale of the map is 1 : 6,00,000. The actual distance between the two points (in km) is:

- Ans**
- ☐ 1. 30,000
  - ☐ 2. 3000
  - ☒ 3. 30
  - ☐ 4. 300

**Q.20** Who is one of the authors of the book 'Overthrowing Cricket's Empire: How Every Team Beat England for the First Time' released in July 2024?

- Ans**
- ☒ 1. Abishek Mukherjee
  - ☐ 2. Joy Bhattacharjya
  - ☐ 3. R Ashwin
  - ☐ 4. Aniket Mishra

**Q.21** To promote Indian Culture and Art, President Draupadi Murmu conferred which of the following awards in October 2024?

- Ans**
- ☐ 1. 69<sup>th</sup> National Film Awards
  - ☐ 2. 68<sup>th</sup> National Film Awards
  - ☒ 3. 70<sup>th</sup> National Film Awards
  - ☐ 4. 67<sup>th</sup> National Film Awards

**Q.22** What compound is formed when a small amount of hydrochloric acid is added to a beaker containing copper oxide?

- Ans**
- ☐ 1. Copper (I) chloride
  - ☐ 2. Copper (IV) chloride
  - ☐ 3. Copper (III) chloride
  - ☒ 4. Copper (II) chloride

**Q.23** Which of the following is NOT the characteristic of particles of the matter?

- Ans**
- ☐ 1. They attract each other.
  - ☐ 2. They are continuously moving.
  - ☒ 3. They are very large in size.
  - ☐ 4. They have space between them.

**Q.24** If 'A' stands for '+', 'B' stands for '×', 'C' stands for '÷' and 'D' stands for '−', then the resultant of which of the following would be 113?

- Ans**
- ☐ 1. 96 C 12 B 2 D (42 A 6) D 3 C 20
  - ☐ 2. 96 D 12 A 2 C (42 B 6) A 3 C 20
  - ☐ 3. 96 C 12 A 2 D (42 A 6) A 3 D 20
  - ☒ 4. 96 D 12 B 2 C (42 A 6) B 3 C 20

**Q.25** Seven boxes, A, B, E, F, L, M and P, are kept one over the other but not necessarily in the same order. M is kept second from the bottom. Only three boxes are kept between M and B. P is kept at one of the positions below M. Only E is kept between B and F. A is kept at one of the positions above B. How many boxes are kept between L and P?

- Ans**
- ✓ 1. One
  - ✗ 2. Three
  - ✗ 3. Two
  - ✗ 4. Four

**Q.26** Who was appointed as the new Managing Director of Boeing Defence India in February 2024?

- Ans**
- ✗ 1. Sanjay Gupta
  - ✗ 2. Vijay Mehta
  - ✗ 3. Arun Kumar
  - ✓ 4. Nikhil Joshi

**Q.27** For a given data, if mean and mode are 42 and 60, respectively, then find the median of the data using empirical relation.

- Ans**
- ✗ 1. 44
  - ✓ 2. 48
  - ✗ 3. 50
  - ✗ 4. 46

**Q.28** In a concave mirror, the object is placed between the pole and the focus point of the mirror. What is the nature of the image?

- Ans**
- ✗ 1. Virtual and inverted
  - ✗ 2. Real and erect
  - ✓ 3. Virtual and erect
  - ✗ 4. Real and inverted

**Q.29** Where was the 8<sup>th</sup> India Water Week 2024 held?

- Ans**
- ✗ 1. Bangalore
  - ✗ 2. Mumbai
  - ✓ 3. New Delhi
  - ✗ 4. Indore

**Q.30** Work done can be defined as \_\_\_\_\_.

- Ans**
- ✓ 1. force  $\times$  displacement
  - ✗ 2. force  $-$  displacement
  - ✗ 3. force  $+$  displacement
  - ✗ 4. force  $/$  displacement

**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**
- ✗ 1. FHK
  - ✗ 2. UWZ
  - ✓ 3. JLP
  - ✗ 4. PRU

**Q.32** Iodine is necessary for which gland to make the thyroxine hormone?

- Ans**
- ✓ 1. Thyroid gland
  - ✗ 2. Pineal gland
  - ✗ 3. Thymus
  - ✗ 4. Pancreas

**Q.33** Justice Sanjiv Khanna took over as the \_\_\_\_\_ Chief Justice of India on 11 November 2024.

- Ans**
- ✗ 1. 50<sup>th</sup>
  - ✗ 2. 53<sup>rd</sup>
  - ✗ 3. 52<sup>nd</sup>
  - ✓ 4. 51<sup>st</sup>

**Q.34** When a body falls freely under gravity, then which of the following quantities DOES NOT remain constant:

- Ans**
- ✗ 1. Mass
  - ✗ 2. Universal Gravitational Constant
  - ✓ 3. Distance
  - ✗ 4. Acceleration

**Q.35** Which of the following compounds undergoes thermal decomposition to produce calcium oxide and carbon dioxide?

- Ans**
- ✗ 1. Calcium chloride
  - ✓ 2. Calcium carbonate
  - ✗ 3. Calcium nitrate
  - ✗ 4. Calcium sulphate

**Q.36** A positive number, when added to its square, gives 56. The number is:

- Ans**
- ✗ 1. 12
  - ✗ 2. 9
  - ✗ 3. 8
  - ✓ 4. 7

**Q.37** In a certain code language, 'someday in paradise' is written as 'yd pl ws' and 'in dense forest' is written as 'fc ws nm'. How is 'in' coded in the given language?

- Ans**
- ✗ 1. yd
  - ✗ 2. fc
  - ✗ 3. nm
  - ✓ 4. ws

**Q.38** Which of the following is part of mechanical energy?

- Ans**
- ✗ 1. Only Light energy
  - ✗ 2. Only Heat energy
  - ✗ 3. Only Chemical energy
  - ✓ 4. Potential energy

**Q.39** The position(s) of how many letters will remain unchanged if each of the letters in the word ARTICLE is arranged in the English alphabetical order ?

- Ans**
- ☒ 1. 1
  - ☒ 2. 2
  - ☒ 3. 0
  - ☒ 4. 3

**Q.40** A and B working alone can do a work in 40 days and 30 days, respectively. They started the work together, but B left after some time and A finished the remaining work in 5 days. How many days after starting did B leave the work?

- Ans**
- ☒ 1. 12 days
  - ☒ 2. 14 days
  - ☒ 3. 15 days
  - ☒ 4. 16 days

**Q.41** Ramesh invested ₹1,232 at 5% p.a. simple interest in a bank. What amount will he get after 3 years?

- Ans**
- ☒ 1. ₹1,848.80
  - ☒ 2. ₹1,416.80
  - ☒ 3. ₹2,145.80
  - ☒ 4. ₹1,285.80

**Q.42** 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 shirts are pants.

Some pants are tie.

Conclusions:

(I) At least some pants are shirts.

(II) Some shirts are tie.

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

**Q.43** Which of the following statements is /are true about the field around a current carrying solenoid:

- (i) The field inside the solenoid is uniform.
- (ii) The field outside the solenoid is same in magnitude as the field inside the solenoid.
- (iii) The field around the solenoid is similar to the field around a bar magnet.

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



**Q.44** Asexual reproduction by fragmentation occurs:

- Ans**
- ✓ 1. only in simple body organised multicellular organisms
  - ✗ 2. in all multicellular organisms
  - ✗ 3. only in unicellular organisms
  - ✗ 4. only in complex body organised multicellular organisms

**Q.45** If the angles  $(5x - 2)^\circ$  and  $82^\circ$  form a pair of supplementary angles, then the value of x is:

- Ans**
- ✓ 1. 20
  - ✗ 2. 45
  - ✗ 3. 30
  - ✗ 4. 90

**Q.46** Given below is a cause followed by possible effects numbered I, II and III. Read the cause carefully and decide which of the three can be a/the possible effect(s).

Cause:

There has been an increase in the number of thefts of bicycles being reported in the apartments in locality X in the last 2 months.

Effects:

(I) Police have instructed security guards of locality X to record details of all entries and exits and verify the phone numbers of all delivery personnel.

(II) Many apartment complexes have decided to install multiple CCTV cameras inside and outside their gates.

(III) More women police constables have been appointed in the police station adjoining locality X.

- Ans**
- ✗ 1. Only I can be a possible effect
  - ✓ 2. Both I and II can be the possible effects
  - ✗ 3. Only II is can be a possible effect
  - ✗ 4. Both II and III can be the possible effects

**Q.47** In the process of photosynthesis, what happens to the carbohydrates (glucose) that are produced?

- Ans**
- ✗ 1. Carbohydrates are stored in the form of glycogen.
  - ✗ 2. All the carbohydrates are stored in the form of a starch.
  - ✓ 3. First, carbohydrates are utilised for energy production and the rest are stored in the form of starch.
  - ✗ 4. All the carbohydrates are immediately used as energy.

**Q.48** Which of the following is the most common application of plaster of Paris?

- Ans**
- ✗ 1. Remove the hardness of water
  - ✗ 2. Baking
  - ✗ 3. Fire extinguisher
  - ✓ 4. Creating casts for supporting fractured bones

**Q.49** If the simple interest on a sum of money at 8% per annum in 2 years is ₹2,000, find the compound interest on the same sum for the same period at the same rate in case of annual compounding.

- Ans**
- ✓ 1. ₹2,080
  - ✗ 2. ₹2,040
  - ✗ 3. ₹1,960
  - ✗ 4. ₹1,660



**Q.50** 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. RYT
  - ☒ 2. MTP
  - ☒ 3. JQL
  - ☒ 4. FMH

**Q.51** A dishonest shopkeeper professes to sell his goods at cost price. However, he uses a false weight and thus gains 25%. For a kg, he uses a weight of:

- Ans**
- ☒ 1. 850 gm
  - ☒ 2. 800 gm
  - ☒ 3. 700 gm
  - ☒ 4. 900 gm

**Q.52** Select the bisexual flower from the provided options.

- Ans**
- ☒ 1. Papaya
  - ☒ 2. Mustard
  - ☒ 3. Pumpkin
  - ☒ 4. Watermelon

**Q.53** Apical meristem increases the \_\_\_\_\_ of the stem and the root.

- Ans**
- ☒ 1. flowers
  - ☒ 2. length
  - ☒ 3. girth
  - ☒ 4. branches

**Q.54** Which of the following organisms have three-chambered hearts?

- Ans**
- ☒ 1. Amphibians
  - ☒ 2. Birds
  - ☒ 3. Fishes
  - ☒ 4. Mammals

**Q.55**  $\sec^2 A + (\operatorname{cosec}^2 A - 1) - (1 + \tan^2 A) - \cot^2 A =$  \_\_\_\_\_.

- Ans**
- ☒ 1. 1
  - ☒ 2.  $\sec^2 A$
  - ☒ 3. 0
  - ☒ 4.  $\cot^2 A$

**Q.56** If a 4-digit number 13z4 is divisible by 6, then the greatest possible value of digit 'z' is:

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

**Q.57** Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?

ZSN, QJE, HAV, YRM, ?

- Ans**
- ☐ 1. PJC
  - ☐ 2. PJD
  - ☒ 3. PID
  - ☐ 4. PIC

**Q.58** Which of the following parts of a plant does NOT take part in vegetative propagation?

- Ans**
- ☐ 1. Leaves
  - ☐ 2. Root
  - ☐ 3. Stem
  - ☒ 4. Flower

**Q.59** The magnetic field due to a current carrying coil increases when:

- Ans**
- ☐ 1. current through the coil is decreased
  - ☐ 2. number of turns of the coil is decreased
  - ☐ 3. One moves away from the coil
  - ☒ 4. current through the coil is increased

**Q.60** 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 : 96 :: 53 : Y

- Ans**
- ☐ 1. X = 58, Y = 112
  - ☐ 2. X = 49, Y = 118
  - ☐ 3. X = 52, Y = 104
  - ☒ 4. X = 47, Y = 108

**Q.61** If each vowel in the word FRIENDLY is changed to the letter immediately preceding it in the English alphabetical order and each consonant is changed to the letter immediately following it in the English alphabetical order, the how many letters will appear twice in the group of letters thus formed?

- Ans**
- ☐ 1. 3
  - ☐ 2. 2
  - ☒ 3. 0
  - ☐ 4. 1

**Q.62** The force of gravitation between two bodies is  $F$ ; if the mass of one of the bodies is increased to four times its initial value, then the gravitational force between the bodies will now be:

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

**Q.63** Which of the following pairs belongs to homologous series of alkenes?

- Ans**
- ☒ 1.  $C_3H_6$  and  $C_4H_8$
  - ☐ 2.  $CH_4$  and  $C_4H_8$
  - ☐ 3.  $C_2H_6$  and  $C_3H_{10}$
  - ☐ 4.  $CH_4$  and  $C_2H_4$

**Q.64** Which of the following Asian countries conducted the '8<sup>th</sup> International Ancient Arts Festival and Symposium' in November 2024?

- Ans**
- ☐ 1. Nepal
  - ☐ 2. Bangladesh
  - ☐ 3. Bhutan
  - ☒ 4. India

**Q.65** Which of the following is the longest part of the alimentary canal?

- Ans**
- ☐ 1. Large intestine
  - ☐ 2. Food pipe
  - ☐ 3. Stomach
  - ☒ 4. Small intestine

**Q.66** Select the triad which follows the same pattern as that followed by the two triads given below. Both triads follow the same pattern.

JAIL - ALIJ - LIAJ

ZEAL - ELAZ - LAEZ

- Ans**
- ☐ 1. MAIN - AMIN - NAIM
  - ☐ 2. COLD - ODLC - LCOD
  - ☐ 3. GILE - GLIE - ELIG
  - ☒ 4. BORE - OERB - EROB

**Q.67** Express  $0.\overline{52}$  in the form  $\frac{p}{q}$ , where  $p$  and  $q$  are integers and  $q \neq 0$ .

- Ans**
- ☐ 1.  $\frac{52}{90}$
  - ☐ 2.  $\frac{53}{99}$
  - ☐ 3.  $\frac{50}{99}$
  - ☒ 4.  $\frac{52}{99}$

**Q.68** Consider a ray passing through the principal focus and not parallel to the principal axis of a concave mirror, after reflection, it will:

- Ans**
- ☒ 1. pass through the principal focus
  - ☒ 2. emerge obliquely to the principal axis
  - ☒ 3. emerge parallel to the principal axis
  - ☒ 4. pass through the centre of curvature

**Q.69** To gather intelligence about demand and supply of drugs in border villages, Punjab police launched which mission in association with Border Security Force (BSF) and Village Defence Committees (VDCs) in June 2024?

- Ans**
- ☒ 1. Mission Nishchay
  - ☒ 2. Mission Mukti
  - ☒ 3. Mission Sathi
  - ☒ 4. Mission Madad

**Q.70** Which of the following is NOT a characteristic of a solution?

- Ans**
- ☒ 1. The particles of a solution are smaller than 1 nm ( $10^{-9}$  metre) in diameter.
  - ☒ 2. Because of very small particle size, particles do not scatter a beam of light passing through the solution.
  - ☒ 3. A solution is a homogenous mixture.
  - ☒ 4. The solute particles can be separated from the mixture by the process of filtration.

**Q.71** The ratio between volume of a sphere and volume of a circumscribing right circular cylinder is:

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

**Q.72** 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 rocks are apples.

Some apples are horses.

Some horses are nails.

Conclusions:

(I) Some nails are apples.

(II) Some horses are rocks.

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

**Q.73** A is twice as old as B. B is  $\frac{1}{3}$  as old as C. The sum of ages of A, B and C is 42 years, find the sum of the ages of A and B.

- Ans**
- ☐ 1. 12 years
  - ☒ 2. 21 years
  - ☐ 3. 15 years
  - ☐ 4. 23 years

**Q.74** Who among the following from the Indian state of Odisha won the third Rohini Nayyar Prize for his outstanding contribution to rural development?

- Ans**
- ☐ 1. Sethrichem Sangtam
  - ☐ 2. Azim Premji
  - ☒ 3. Anil Pradhan
  - ☐ 4. Deenanath Rajput

**Q.75** The pH value of the neutral solution is \_\_\_\_\_.

- Ans**
- ☐ 1. 5
  - ☐ 2. 14
  - ☐ 3. 0
  - ☒ 4. 7

**Q.76** What is the mass number of an atom having 13 protons and 14 neutrons?

- Ans**
- ☐ 1. 13 u
  - ☐ 2. 14 u
  - ☐ 3. 1 u
  - ☒ 4. 27 u

**Q.77** In the Earth's crust, metal ores are present in the form of \_\_\_\_\_.

- Ans**
- ☒ 1. oxides, sulphides and carbonates
  - ☐ 2. only carbonates
  - ☐ 3. only sulphides
  - ☐ 4. only oxides

**Q.78** Which of the following statements is/are correct related to eco-system?

- (i) Non-biodegradable substance harms the various members of eco-system.
- (ii) Non-biodegradable substances break-down by biological processes.
- (iii) Non-biodegradable substances never persist in the environment.

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

**Q.79** Kevin starts from point A and drives 7 km towards the North. He then takes two simultaneous right turns and drives 2 km and 1 km, respectively. He then takes a left turn and drives 3 km. He then takes two simultaneous right turns and drives 3 km each. He takes a final left turn and drives 3 km to reach point B. How far (shortest distance) and towards which direction should he drive to reach Point A again? (All turns are 90 degrees turns only unless specified.)

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

**Q.80** Which of the following pairs of metals are found in free state?

- Ans**
- ☒ 1. Gold and silver
  - ☐ 2. Gold and sodium
  - ☐ 3. Sodium and potassium
  - ☐ 4. Silver and potassium

**Q.81** In a certain code language,  
 'P + Q' means 'P is the mother of Q',  
 'P - Q' means 'P is the husband of Q',  
 'P x Q' means 'P is the sister of Q' and  
 'P ÷ Q' means 'P is the brother of Q'.  
 How is A related to E if 'A + B - C + D x E'?

- Ans**
- ☐ 1. Father's sister
  - ☒ 2. Father's mother
  - ☐ 3. Mother's sister
  - ☐ 4. Mother's mother

**Q.82** 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 schools are colleges.

No college is a university.

Conclusions:

(I) Some colleges are not schools.

(II) Some schools may be universities.

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

**Q.83** The value of  $\frac{0.5 \times 10.6 - 0.2 \times 1.4}{0.4}$  is:

- Ans**
- ☒ 1. 12.55
  - ☐ 2. 1.255
  - ☐ 3. 12.25
  - ☐ 4. 125.5

**Q.84** Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?

YES, ZGV, AIY, BKB, ?

- Ans**
- ☒ 1. CMD
  - ☒ 2. CME
  - ☒ 3. CMF
  - ☒ 4. CNE

**Q.85** Arvind spends 75% of his income. His income is increased by 20% and he increased his expenditure by 10%. His savings are increased by:

- Ans**
- ☒ 1. 50%
  - ☒ 2. 10%
  - ☒ 3. 25%
  - ☒ 4. 37.5%

**Q.86** What is the SI unit of acceleration?

- Ans**
- ☒ 1. m s
  - ☒ 2.  $\text{m s}^{-2}$
  - ☒ 3.  $\text{m s}^2$
  - ☒ 4.  $\text{m s}^{-1}$

**Q.87** Refer to the given number and symbol series and answer the question that follows. Counting to be done from left to right only.

(Left) 2 9 # 1 \* £ & % 4 6 @ 8 \$ 7 & 3 Ω 5 (Right)

How many such symbols are there, each of which is immediately preceded by a symbol and also immediately followed by an odd number?

- Ans**
- ☒ 1. None
  - ☒ 2. One
  - ☒ 3. Two
  - ☒ 4. More than two

**Q.88** \_\_\_\_\_ is the process through which plants lose water in the form of water vapour.

- Ans**
- ☒ 1. Transportation
  - ☒ 2. Imbibition
  - ☒ 3. Transcription
  - ☒ 4. Transpiration

**Q.89** Seven people, A, B, C, D, E, F and G, are sitting in a row, facing north. Only three people sit to the right of A. B sits second from the left end. F is an immediate neighbour of C and G. D sits second to the left of C. How many people sit between E and D?

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



**Q.90** If John travels 90 km at a speed of 30 km/h and returns at a speed of 60 km/h, his average speed is:

- Ans**
- ☐ 1. 30 km/h
  - ☐ 2. 60 km/h
  - ☒ 3. 40 km/h
  - ☐ 4. 45 km/h

**Q.91** In a certain code language, 'TREF' is coded as '3528' and 'KERF' is coded as '5438'. What is the code for 'K' in the given code language?

- Ans**
- ☐ 1. 3
  - ☐ 2. 8
  - ☒ 3. 4
  - ☐ 4. 5

**Q.92** In the set {61, 62...100}, the sum of the second greatest and the second smallest prime numbers is:

- Ans**
- ☐ 1. 164
  - ☐ 2. 150
  - ☐ 3. 158
  - ☒ 4. 156

**Q.93** Which of the following statements is INCORRECT?

- Ans**
- ☐ 1. Binary fission occurs in a definite orientation in Leishmania.
  - ☒ 2. Plasmodium divides into many daughter cells simultaneously by binary fission.
  - ☐ 3. In Amoeba, the splitting of the two cells during division can take place in any plane.
  - ☐ 4. Yeast can put out small buds that separate and grow further.

**Q.94** The natural tendency of objects to resist a change in their state of rest or of uniform motion is called\_\_\_\_\_.

- Ans**
- ☒ 1. inertia
  - ☐ 2. force
  - ☐ 3. motion
  - ☐ 4. momentum

**Q.95** By defeating which state's team had Punjab won the Syed Mushtaq Ali T20 Trophy at the IS Bindra PCA Stadium in November 2023?

- Ans**
- ☒ 1. Gujarat
  - ☐ 2. Madhya Pradesh
  - ☐ 3. Maharashtra
  - ☐ 4. Karnataka

**Q.96** Which of the following diseases is caused by Leishmania?

- Ans**
- ☒ 1. Kala-azar
  - ☐ 2. Dengue
  - ☐ 3. Malaria
  - ☐ 4. Anaemia

**Q.97** If 12, 24, 45 and y are in proportion, then the value of y is:

- Ans**
- ☒ 1. 30
  - ☒ 2. 25
  - ☒ 3. 60
  - ☒ 4. 90

**Q.98** VSUR is related to KHJG in a certain way based on the English alphabetical order. In the same way, YVXU is related to NKMJ. To which of the following options is SPRO related, following the same logic?

- Ans**
- ☒ 1. HEGD
  - ☒ 2. GEHD
  - ☒ 3. GEDH
  - ☒ 4. HEDG

**Q.99** Two successive discounts of 12% and 15% on any number of toys bought are equivalent to a single discount of:

- Ans**
- ☒ 1. 27%
  - ☒ 2. 26%
  - ☒ 3. 26.2%
  - ☒ 4. 25.2%

**Q.100** Carbon has the unique ability to form bonds with other atoms of carbon. This property is known as \_\_\_\_\_.

- Ans**
- ☒ 1. cyclisation
  - ☒ 2. Crystallisation
  - ☒ 3. catenation
  - ☒ 4. Isomerisation