



# रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARDS



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

Test Date	30/12/2024
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** Pradnya invests ₹2,00,000 in the name of her daughter, who is 16 years old, in a scheme that pays compound interest at a rate of 8% per annum, compounded annually. What will be the total amount due to the daughter when she becomes 18 years old?

- Ans**
- ☒ 1. ₹2,51,250
  - ☒ 2. ₹ 2,52,150
  - ☒ 3. ₹ 2,35,850
  - ☒ 4. ₹2,33,280

**Q.2** 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 hands are legs.

No leg is an eye.

Conclusions:

I. All legs are hands.

II. No hand is an eye.

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

**Q.3** Ajit starts from point A and drives 6 km towards North. He then takes two simultaneous left turns and drives 2 km each. He then takes a right turn and drives 3 km.. He then takes a left turn and drives 2 km. He takes a final left turn and drives 5 km to reach a point B. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90 degrees turns only unless specified.)

- Ans**
- ☒ 1. 2 km South
  - ☒ 2. 2 km North
  - ☒ 3. 5 km West
  - ☒ 4. 3 km South

Q.4 An imaginary straight line passing through the pole and the centre of curvature of a spherical mirror is called as \_\_\_\_\_.

- Ans
- ☐ 1. emergent ray
  - ☐ 2. reflected ray
  - ☒ 3. principal axis
  - ☐ 4. incident ray

Q.5 Who among the following assumed charge as Officer on Special Duty (Defence Secretary-designate) on August 2024?

- Ans
- ☐ 1. Arun Kumar Sharma
  - ☒ 2. Rajesh Kumar Singh
  - ☐ 3. Sandeep Chakravorty
  - ☐ 4. Rajeev Kumar

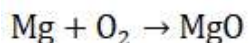
Q.6 Which Indian legendary sportsperson became the first Asian man to be inducted into the Tennis Hall of Fame?

- Ans
- ☐ 1. Ramanathan Krishnan
  - ☐ 2. Rohan Bopanna
  - ☒ 3. Leander Paes
  - ☐ 4. Mahesh Bhupathi

Q.7 In which state did Prime Minister Narendra Modi inaugurate India's first modern, self-sufficient gaushala named Adarsh Gaushala?

- Ans
- ☐ 1. Rajasthan
  - ☒ 2. Madhya Pradesh
  - ☐ 3. Uttar Pradesh
  - ☐ 4. Bihar

Q.8 Identify the balanced chemical equation for the following reaction.



- Ans
- ☐ 1.  $\text{Mg} + \frac{3}{2}\text{O}_2 \rightarrow \text{MgO}$
  - ☐ 2.  $2\text{Mg} + \frac{3}{2}\text{O}_2 \rightarrow 3\text{MgO}$
  - ☐ 3.  $2\text{Mg} + \frac{1}{2}\text{O}_2 \rightarrow 2\text{MgO}$
  - ☒ 4.  $\text{Mg} + \frac{1}{2}\text{O}_2 \rightarrow \text{MgO}$

Q.9 Which of the following elements is monoatomic?

- Ans
- ☒ 1. Helium
  - ☐ 2. Nitrogen
  - ☐ 3. Oxygen
  - ☐ 4. Hydrogen

**Q.10** The value of a machine depreciates at the rate of 10% per annum. If its present value is ₹1,62,000, then what will be its worth after 2 years?

- Ans**
- ☐ 1. ₹1,26,860
  - ☐ 2. ₹1,32,860
  - ☒ 3. ₹1,31,220
  - ☐ 4. ₹1,27,760

**Q.11** A scanner costs ₹7,000 less than a printer. If the cost of the printer is twice the cost of the scanner, then the cost of the scanner is:

- Ans**
- ☐ 1. ₹6,000
  - ☐ 2. ₹14,000
  - ☒ 3. ₹7,000
  - ☐ 4. ₹7,500

**Q.12** The ratio between the present ages of Amit and Amita is 7 : 5, respectively. The ratio between Amit's age 5 years ago and Amita's age 5 years hence is 1 : 1. What is the ratio between Amit's age 5 years hence and Amita's age 5 years ago?

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

**Q.13** Which of the following functions is NOT regulated by the medulla in the hind brain?

- Ans**
- ☐ 1. Salivary regulation
  - ☐ 2. Blood pressure regulation
  - ☒ 3. Regulation of hearing
  - ☐ 4. Vomiting control

**Q.14** 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 tablets are laptops.

All laptops are desktops.

Conclusions:

(I) Some desktops are tablets.

(II) No desktops are tablets.

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

**Q.15** What is the sum of the deviations of the values of the data set 5, 6, 7, 9, 10, 12 and 14, from the mean of the values given in the same data set?

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

**Q.16** 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:

The truckers' strike entered its 6th day today in State X, as they protested against the increase in diesel prices.

Effects:

(I) Supply of fruits and vegetables from neighbouring states has dropped drastically in the wholesale markets in the last week across many cities in State X.

(II) Demand for diesel vehicles has been steadily increasing in State X despite an increase in diesel prices.

(III) The auto rickshaw union in City Z has declared an increase in the starting fares for autos for 48 hours starting tomorrow morning at 6 a.m.

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

**Q.17** The electric power consumed by a resistor of resistance  $R$ , carrying current  $I$ , is \_\_\_\_\_.

- Ans**
- ☒ 1.  $IR$
  - ☒ 2.  $I/R$
  - ☒ 3.  $IR^2$
  - ☒ 4.  $I^2R$

**Q.18** To raise awareness on the safe use of digital payment services and prevent scams, which of the following institution of India launched a UPI Safety Awareness Campaign 'Main Moorkh Nahi Hoon'?

- Ans**
- ☒ 1. Reserve Bank of India (RBI)
  - ☒ 2. Data Security Council of India (DSCI)
  - ☒ 3. National Payments Corporation of India (NPCI)
  - ☒ 4. Indian Cybercrime Coordination Centre (I4C)

**Q.19** In phloem, which of the following cells are dead cells?

- Ans**
- ☒ 1. Companion cells
  - ☒ 2. Sieve cells
  - ☒ 3. Phloem fibres
  - ☒ 4. Phloem parenchyma

**Q.20** Who among the following individuals from India was one of the six recipients of the 2024 Planet Earth Awards?

- Ans**
- ☒ 1. Sunita Narain
  - ☒ 2. S Faizi
  - ☒ 3. Vandana Shiva
  - ☒ 4. RK Pachauri

**Q.21** In a certain code language, 'RIFE' is coded as '3647' and 'FORE' is coded as '6438'. What is the code for 'O' in the given code language?

- Ans**
- ☒ 1. 8
  - ☒ 2. 3
  - ☒ 3. 4
  - ☒ 4. 6

**Q.22** SIDBI, in November 2024, signed a MoU with which of the following for strengthening the collaboration to support MSMEs through capacity building, credit facilities, and knowledge-sharing?

- Ans**
- ✓ 1. Peenya Industries Association
  - ✗ 2. Ecozen Solutions
  - ✗ 3. Reliance Industries
  - ✗ 4. Upcurve Business Services Pvt Ltd

**Q.23** The LCM of the numbers 5, 12.5 and 0.05 is:

- Ans**
- ✗ 1. 125
  - ✗ 2. 12.5
  - ✗ 3. 1.25
  - ✓ 4. 25

**Q.24** Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?

JMP, LOR, NQT, PSV, ?

- Ans**
- ✓ 1. RUX
  - ✗ 2. UXR
  - ✗ 3. URX
  - ✗ 4. RXU

**Q.25** Which of the following factors does NOT affect the rate of evaporation?

- Ans**
- ✗ 1. Humidity of the surrounding air
  - ✗ 2. Surface area of the liquid
  - ✗ 3. Temperature of the liquid
  - ✓ 4. Colour of the liquid

**Q.26** When iron filings are sprinkled around a magnet, they form a pattern. What does this pattern represent?

- Ans**
- ✗ 1. Neither electric nor magnetic field lines
  - ✗ 2. Both electric and magnetic field lines
  - ✗ 3. Electric field lines
  - ✓ 4. Magnetic field lines

**Q.27** Mendel used a number of contrasting visible characters of garden peas. Match the last of the following with Which one of the following options appropriately fills the below blank space?

- A. Round / Wrinkled seeds
- B. Tall / Short plants
- C. White / \_\_\_\_\_ flowers

- Ans**
- ✗ 1. Yellow
  - ✗ 2. Green
  - ✓ 3. Violet
  - ✗ 4. Pink



**Q.28** 1 kilowatt is equal to \_\_\_\_\_.

- Ans**
- ✓ 1.  $1000 \text{ J s}^{-1}$
  - ✗ 2.  $1000 \text{ J s}^{-2}$
  - ✗ 3.  $1000 \text{ J s}$
  - ✗ 4.  $1000 \text{ J}$

**Q.29** The process of fermentation involves the conversion of sugars into which of the following compounds?

- Ans**
- ✗ 1. Ethene
  - ✗ 2. Ethanoic acid
  - ✗ 3. Methane
  - ✓ 4. Ethanol

**Q.30** Why does the following action take place in plants?

Plant cells change shape by changing the amount of water in them, resulting in swelling or shrinking, and therefore in changing shape.

- Ans**
- ✓ 1. In immediate response to some stimulus
  - ✗ 2. To maintain balance
  - ✗ 3. To conserve energy
  - ✗ 4. In fear

**Q.31** If 'A' stands for '+', 'B' stands for '×', 'C' stands for '÷' and 'D' stands for '−', what will come in place of the question mark '?' in the following equation?

$2 \text{ B } 18 \text{ D } 20 \text{ A } 4 \text{ C } 15 = ?$

- Ans**
- ✗ 1. 48
  - ✗ 2. 47
  - ✓ 3. 46
  - ✗ 4. 45

**Q.32** 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.)

$X : 114 :: 26 : Y$

- Ans**
- ✗ 1.  $X = 31, Y = 72$
  - ✗ 2.  $X = 39, Y = 86$
  - ✓ 3.  $X = 38, Y = 78$
  - ✗ 4.  $X = 42, Y = 84$

**Q.33** What was the theme of the first Asian Buddhist Summit, held in November 2024?

- Ans**
- ✓ 1. Role of Buddha Dhamma in Strengthening Asia
  - ✗ 2. Role of Buddha Dhamma in Establishing Global Peace
  - ✗ 3. Role of Buddha Dhamma in Maintaining World Peace Order
  - ✗ 4. Role of Buddha Dhamma in Strengthening World

**Q.34** Which of the options represents the correct and balanced chemical equation for the reaction between a metallic oxide and an acid?



- Ans**
- ☒ 1.  $\text{CuO} + \text{HCl} \rightarrow \text{CuOH} + \text{HCl}$
  - ☒ 2.  $\text{CuO} + 2\text{HCl} \rightarrow \text{CuCl}_2 + \text{O}_2$
  - ☒ 3.  $\text{CuO} + 2\text{HCl} \rightarrow \text{CuCl}_2 + \text{H}_2\text{O}$
  - ☒ 4.  $\text{CuO} + \text{HCl} \rightarrow \text{CuCl} + \text{H}_2$

**Q.35** Heating of ethanol at 443 K with excess concentrated sulphuric acid yields which of the following?

- Ans**
- ☒ 1. Ethane
  - ☒ 2. Acetic acid
  - ☒ 3. Ether
  - ☒ 4. Ethene

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

(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into 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.)

(32, 78, 93)

(29, 75, 90)

- Ans**
- ☒ 1. (43, 79, 94)
  - ☒ 2. (25, 71, 76)
  - ☒ 3. (35, 81, 92)
  - ☒ 4. (38, 84, 99)

**Q.37** What is the name of the connective tissue that connects two bones to each other?

- Ans**
- ☒ 1. Adipose tissue
  - ☒ 2. Tendon
  - ☒ 3. Cartilage
  - ☒ 4. Ligament

**Q.38** If each vowel in the word PAINTER is changed to the nearest consonant succeeding it in the English alphabetical order and each consonant is changed to the nearest vowel succeeding it in English alphabetical order, then which of the following letters is repeated thrice in the new group of letters thus formed?

- Ans**
- ☒ 1. O
  - ☒ 2. U
  - ☒ 3. F
  - ☒ 4. B

**Q.39** 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. NKR
  - ☒ 2. JGM
  - ☒ 3. TQW
  - ☒ 4. QNT

**Q.40** XYYU is related to NLOK in a certain way based on the English alphabetical order. In the same way, USVR is related to KILH. To which of the following options is QORN related, following the same logic?

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

**Q.41** If  $9 : 12 :: 12 : k$ , then find the value of  $k + 1$ .

- Ans**
- ☐ 1. 18
  - ☒ 2. 17
  - ☐ 3. 15
  - ☐ 4. 16

**Q.42** Triveni's salary was first decreased by 16% and subsequently increased by 25%. The net percentage change in her salary was:

- Ans**
- ☐ 1. 10% increase
  - ☐ 2. 10% decrease
  - ☐ 3. 5% decrease
  - ☒ 4. 5% increase

**Q.43** A and B complete a work in 2 days. If A alone can do it in 4 days then, B alone can do 17-times of the same work in \_\_\_\_\_(days).

- Ans**
- ☐ 1. 4
  - ☒ 2. 68
  - ☐ 3. 5
  - ☐ 4. 69

**Q.44** 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 0 8 3 5 6 2 1 6 4 1 4 3 8 7 9 0 6 9 3 4 1 3 0 2 7 1 8 8 9 (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. 6
  - ☒ 2. 5
  - ☐ 3. 4
  - ☐ 4. 3

**Q.45** Zinc metal reacts with sodium hydroxide to produce \_\_\_\_\_.

- Ans**
- ☐ 1. zinc hydroxide
  - ☐ 2. zinc oxide
  - ☐ 3. sodium hydride
  - ☒ 4. sodium zincate

**Q.46** The list price of an article is ₹1,200 and a discount of 15% is offered on the list price. The selling price of the article is:

- Ans**
- ☐ 1. ₹1,140
  - ☒ 2. ₹1,020
  - ☐ 3. ₹1,120
  - ☐ 4. ₹1,080



**Q.47** Archana can eat 21 litchis in 60 minutes. She wants to know how many minutes it would take her to eat 35 litchis at the same pace.

- Ans**
- ☐ 1. 120 minutes
  - ☐ 2. 80 minutes
  - ☐ 3. 90 minutes
  - ☒ 4. 100 minutes

**Q.48** The value of  $(\sec A + \tan A) (1 - \sin A)$  is:

- Ans**
- ☐ 1.  $\tan A$
  - ☐ 2.  $\cot A$
  - ☐ 3.  $\sin A$
  - ☒ 4.  $\cos A$

**Q.49** Which of the following is the best example of a heterogeneous mixture?

- Ans**
- ☐ 1. Sugar in water
  - ☒ 2. Mixture of iron chloride and iron fillings
  - ☐ 3. Salt in water
  - ☐ 4. Copper sulphate solution

**Q.50** Seven people, A, B, E, F, P, Q and R, are sitting in a row, facing north. No one sits to the right of F. Only three people sit between F and E. Only two people sit between E and P. A sits third to the left of R. Q sits to the immediate right of R. How many people sit between B and P?

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

**Q.51** What is the momentum  $p$ , of an object of mass  $m$ , moving with a velocity  $v$ ?

- Ans**
- ☐ 1.  $P = v m^{-1}$
  - ☐ 2.  $P = m v^{-2}$
  - ☒ 3.  $P = m v$
  - ☐ 4.  $p = (mv)^{-2}$

**Q.52** How many water molecules are present in plaster of Paris?

- Ans**
- ☒ 1. Half molecules of water
  - ☐ 2. Zero molecules of water
  - ☐ 3. One molecule of water
  - ☐ 4. Three molecules of water

**Q.53** The tube which grows out of pollen grain to reach the ovary, travels through the:

- Ans**
- ☒ 1. style
  - ☐ 2. filament
  - ☐ 3. petal
  - ☐ 4. anther

**Q.54** Which organelle is the powerhouse of the cell?

- Ans**
- ☐ 1. Golgi apparatus
  - ☐ 2. Plastids
  - ☒ 3. Mitochondria
  - ☐ 4. Endoplasmic reticulum

**Q.55** What is the SI unit of pressure?

- Ans**
- ☐ 1. N m
  - ☐ 2. N
  - ☐ 3.  $N\ m^{-1}$
  - ☒ 4.  $N\ m^{-2}$

**Q.56** In a certain code language, 'AMBER' is coded as '79612' and 'UMBRA' is coded as '12659'. What is the code for 'U' in the given code language?

- Ans**
- ☐ 1. 9
  - ☐ 2. 2
  - ☒ 3. 5
  - ☐ 4. 1

**Q.57** Identify the INCORRECT statement about regeneration.

- Ans**
- ☒ 1. Amoeba exhibit regeneration.
  - ☐ 2. Hydra and Planaria show regeneration mode of reproduction
  - ☐ 3. Specialised cells are responsible for regeneration.
  - ☐ 4. These specialist cells multiply rapidly and produce a large number of new cells.

**Q.58** Spores in Rhizopus are present in blobs, which are known as:

- Ans**
- ☐ 1. sacs
  - ☐ 2. fruiting bodies
  - ☒ 3. sporangia
  - ☐ 4. buds

**Q.59** Which of the following statements is/are INCORRECT?

- (i) The transport of insoluble product of photosynthesis is known as translocation.
- (ii) Respiration is the evaporative loss of water through stomata.
- (iii) Photosynthesis is the process by which autotrophs take in substances from outside and in the absence of sunlight convert them into stored forms of energy.

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

Q.60

$$\left(x + \frac{1}{x}\right)\left(x - \frac{1}{x}\right)\left(x^2 + \frac{1}{x^2}\right)\left(x^4 + \frac{1}{x^4}\right)$$

is equal to:

Ans

✓ 1.  $x^8 - \frac{1}{x^8}$

✗ 2.  $x^4 - \frac{1}{x^4}$

✗ 3.  $x^{10} - \frac{1}{x^{10}}$

✗ 4.  $x^6 - \frac{1}{x^6}$

Q.61

A body, starting from rest, falls from a building and reaches the ground in 2 secs. What will be the velocity of the body when it reaches the ground? (Acceleration due to gravity =  $10 \text{ ms}^{-2}$ )

Ans

✗ 1. 5 m/s

✓ 2. 20 m/s

✗ 3. 10 m/s

✗ 4. 15 m/s

Q.62

D, E, F, G, L, M and N are sitting around a circular table facing the centre. E sits to the immediate right of D. Only three people sit between E and L when counted from the left of E. Only three people sit between D and G when counted from the left of D. N sits to the immediate right of M.

How many people sit between F and M when counted from the left of M?

Ans

✓ 1. Two

✗ 2. Three

✗ 3. Four

✗ 4. One

Q.63

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

16, 27, 38, 49, 60, ?

Ans

✓ 1. 71

✗ 2. 73

✗ 3. 70

✗ 4. 72

Q.64

which of the following is/ are correct related to Adrenalin hormone ?

(i) Heart beats faster

(ii) Breathing rate increases

(iii) Decreases blood pressure

Ans

✗ 1. Only (ii) and (iii)

✗ 2. Only (i) and (iii)

✓ 3. Only (i) and (ii)

✗ 4. (i), (ii) and (iii)

Q.65 Which of the following cells have dendrites and axons?

- Ans
- ☐ 1. White blood cells
  - ☐ 2. Fibres
  - ☒ 3. Nerve cells
  - ☐ 4. Red blood cells

Q.66 Which of the following device is governed by Flemming's Left Hand Rule

- Ans
- ☐ 1. Electric Iron
  - ☒ 2. Electric motor
  - ☐ 3. Electric Geyser
  - ☐ 4. Electric Bulb

Q.67 Who among the following was awarded the 'Best Film Critic' for his work in Hindi language as part of the National Film Awards 2022 in 2024?

- Ans
- ☐ 1. Anirudha Bhattacharjee
  - ☐ 2. Parthiv Dhar
  - ☒ 3. Deepak Dua
  - ☐ 4. Mithun Chakraborty

Q.68 A sum when invested at  $12\frac{1}{2}\%$  simple interest per annum amounts to ₹8,250 after 2 years. What is the simple interest in 1 year?

- Ans
- ☐ 1. ₹910
  - ☐ 2. ₹1,650
  - ☒ 3. ₹825
  - ☐ 4. ₹1,700

Q.69 The value of universal gravitational constant is \_\_\_\_\_.

- Ans
- ☐ 1.  $6.7 \text{ N m}^2 \text{ kg}^{-2}$
  - ☐ 2.  $5 \times 10^{-1} \text{ N m}^2 \text{ kg}^{-2}$
  - ☒ 3.  $6.7 \times 10^{-11} \text{ N m}^2 \text{ kg}^{-2}$
  - ☐ 4.  $1 \times 10^{-11} \text{ N m}^2 \text{ kg}^{-2}$

Q.70 How much amount did the Board of Control for Cricket in India Secretary Jay Shah provide to the Indian Olympic Association (IOA) as a support for the Indian contingent for Paris Olympics 2024?

- Ans
- ☐ 1. 10.5 crore
  - ☐ 2. 12.5 crore
  - ☐ 3. 14.5 crore
  - ☒ 4. 8.5 crore

Q.71 What least natural number must be added to 6072 to make it a perfect square?

- Ans
- ☒ 1. 12
  - ☐ 2. 16
  - ☐ 3. 6
  - ☐ 4. 10

**Q.72** Which of the following is NOT a function of blood?

- Ans**
- ☒ 1. Helps in the synthesis of starch
  - ☐ 2. Transports waste materials
  - ☐ 3. Transports hormones
  - ☐ 4. Transports gases

**Q.73** Two trains of length 220 m and 280 m are running towards each other on parallel lines at 42 km/h and 30 km/h, respectively. In how much time will they be clear of each other from the moment they meet?

- Ans**
- ☐ 1. 21 sec
  - ☒ 2. 25 sec
  - ☐ 3. 20 sec
  - ☐ 4. 10 sec

**Q.74** If 'I' stands for '+', 'J' stands for '×', 'K' stands for '+', and 'L' stands for '−', what will be come in place of the question mark '?' in the following equation?

$$148 \text{ I } 104 \text{ L } 126 \text{ I } (76 \text{ K } 2) \text{ I } (11 \text{ J } 3) \text{ L } 55 = ?$$

- Ans**
- ☐ 1. 168
  - ☐ 2. 154
  - ☐ 3. 122
  - ☒ 4. 142

**Q.75** Which of the following phenomena CANNOT be explained using the universal law of gravitation?

- Ans**
- ☐ 1. Tides
  - ☒ 2. Firing of a gun
  - ☐ 3. Motion of the moon around the earth
  - ☐ 4. Motion of planets around the Sun

**Q.76** The HCF of 45, 78 and 117 is:

- Ans**
- ☐ 1. 9
  - ☐ 2. 7
  - ☒ 3. 3
  - ☐ 4. 5

**Q.77** 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?

$$78 \text{ A } 13 \text{ B } 15 \text{ D } 20 \text{ C } 30 = ?$$

- Ans**
- ☐ 1. 90
  - ☐ 2. 110
  - ☐ 3. 80
  - ☒ 4. 100



**Q.78** 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. JQK
  - ☐ 3. FMH
  - ☐ 4. NUP

**Q.79** If the ratio of the volume of two spheres is 1:8, then the ratio of their surface area is:

- Ans**
- ☐ 1. 1:2
  - ☒ 2. 1:4
  - ☐ 3. 1:6
  - ☐ 4. 1:8

**Q.80** The average monthly income of P and Q is ₹5,050. The average monthly income of Q and R is ₹6,250 and the average monthly income of P and R is ₹5,200. The monthly income of P (in ₹) is:

- Ans**
- ☒ 1. 4,000
  - ☐ 2. 4,050
  - ☐ 3. 5,000
  - ☐ 4. 3,500

**Q.81** Which of the following is produced when acid reacts with a base?

- Ans**
- ☐ 1. Salt and hydrogen ion
  - ☐ 2. Salt and hydrogen gas
  - ☒ 3. Salt and water
  - ☐ 4. Only water

**Q.82** When a body of mass  $m$  is raised to a height  $H$  against gravity, the potential energy of the body is:

- Ans**
- ☒ 1. increased by an amount  $mgH$
  - ☐ 2. decreased by an amount  $mgH/2$
  - ☐ 3. increased by an amount  $mgH/2$
  - ☐ 4. decreased by an amount  $mgH$

**Q.83** In November 2024, the Union Cabinet approved which of the following new Central Sector schemes that seeks to provide financial support to meritorious students by providing education loan upto ₹7.5 lakhs with a 75% credit guarantee by the Government of India?

- Ans**
- ☐ 1. PM Shikshalaxmi
  - ☐ 2. PM ShikshaDhan
  - ☒ 3. PM Vidyalaxmi
  - ☐ 4. PM VidyaDhan

**Q.84** The gravitational potential energy of an object of mass ' $m$ ' raised through a height ' $h$ ' from the earth's surface is given by \_\_\_\_\_.

- Ans**
- ☐ 1.  $ma v$
  - ☐ 2.  $ma$
  - ☒ 3.  $mg h$
  - ☐ 4.  $mg v$

**Q.85** Which of the following organisms reproduce by spore formation?

- Ans**
- ☐ 1. Leishmania
  - ☐ 2. Earthworm
  - ☒ 3. Rhizopus
  - ☐ 4. Hydra

**Q.86** Select the triad which follows the same pattern as that followed by the two triads given below. Both triads follow the same pattern.

MOVE - MOVE - EVOM

EXAM - EXAM - MAXE

- Ans**
- ☐ 1. NOSE - NSOE - ESON
  - ☐ 2. DRAW - DRAW - RAWD
  - ☒ 3. READ - READ - DAER
  - ☐ 4. MOST - OMST - TOSM

**Q.87** Simplify  $\frac{2.46 \times 2.46 - 1.46 \times 1.46}{2.46 - 1.46}$  and select the most appropriate fraction.

- Ans**
- ☒ 1.  $\frac{392}{100}$
  - ☐ 2.  $\frac{392}{10000}$
  - ☐ 3.  $\frac{392}{10}$
  - ☐ 4.  $\frac{392}{1000}$

**Q.88** In a certain code language,  
'P + Q' means 'P is the son of Q',  
'P - Q' means 'P is the wife of Q',  
'P x Q' means 'P is the husband 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. Son's son
  - ☐ 2. Daughter's son
  - ☐ 3. Brother
  - ☐ 4. Son

**Q.89** Kevin ranked 15<sup>th</sup> from the top and 20<sup>th</sup> from the bottom in his class. How many students are there in his class?

- Ans**
- ☐ 1. 36
  - ☐ 2. 33
  - ☒ 3. 34
  - ☐ 4. 35

**Q.90** Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?

ADI EHM ILQ MPU ?

- Ans**
- ☐ 1. TYQ
  - ☐ 2. TQY
  - ☒ 3. QTY
  - ☐ 4. QYT

**Q.91** 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 7 & 3 Ω 9 # 1 \* £ & % 4 6 @ 8 S 5 (Right)

If all the symbols are dropped from the series, which of the following will be fifth from the right?

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

**Q.92** An atom has 17 protons, 18 neutrons, and 17 electrons. What is its mass number?

- Ans**
- ☐ 1. 18
  - ☒ 2. 35
  - ☐ 3. 24
  - ☐ 4. 34

**Q.93** Which of the following oxides is amphoteric in nature?

- Ans**
- ☐ 1. Sodium peroxide
  - ☐ 2. Copper oxide
  - ☐ 3. Calcium oxide
  - ☒ 4. Aluminium oxide

**Q.94** If a force of 2 N gives a mass  $m_1$ , an acceleration of  $8 \text{ m s}^{-2}$  and a mass  $m_2$ , an acceleration of  $15 \text{ m s}^{-2}$ , what will be the total mass if both the masses were tied together?

- Ans**
- ☐ 1.  $\frac{10}{40} \text{ kg}$
  - ☐ 2.  $\frac{3}{10} \text{ kg}$
  - ☐ 3.  $\frac{4}{10} \text{ kg}$
  - ☒ 4.  $\frac{23}{60} \text{ kg}$

**Q.95** The cost price of a toy is ₹210. What should be its MRP so that after a discount of 5% the shopkeeper gains 90%?

- Ans**
- ☐ 1. ₹480
  - ☐ 2. ₹400
  - ☒ 3. ₹420
  - ☐ 4. ₹450

**Q.96** If  $AB = k + 3$ ,  $BC = 2k$  and  $AC = 5k - 5$ , then for what value of 'k' does B lie on AC?

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

**Q.97** Which of the following compounds is used as an antacid?

- Ans**
- ☐ 1. Calcium oxide
  - ☐ 2. Calcium hydroxide
  - ☒ 3. Magnesium hydroxide
  - ☐ 4. Sodium chloride

**Q.98** If a 3-digit number  $2y5$  is divisible by 11, then the value of digit 'y' is:

- Ans**
- ☒ 1. 7
  - ☐ 2. 2
  - ☐ 3. 9
  - ☐ 4. 3

**Q.99** If the volume of a cube is  $729 \text{ cm}^3$ , then the measure of the main diagonal of the cube will be:

- Ans**
- ☐ 1. 9 cm
  - ☐ 2. 7 cm
  - ☐ 3.  $7\sqrt{3}$  cm
  - ☒ 4.  $9\sqrt{3}$  cm

**Q.100** A and B can do a piece of work in 12 days and 16 days, respectively. Both work for 3 days and then A goes away. Find how long will B take to complete the remaining work?

- Ans**
- ☐ 1. 12 days
  - ☐ 2. 15 days
  - ☐ 3. 10 days
  - ☒ 4. 9 days