



रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARDS  
सी ई एन आर आर बी - ०३/२०२४ - CEN RRB - 03/2024



Test Center Name	Xeon Technologies
Test Date	16/12/2024
Test Time	12:45 PM - 2:15 PM
Subject	RRB JE DMS CMA CS MS

\* 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 JE, DMS, CMA, CS, MS CBT-1

Q.1 Which of the following states is also known as the 'Molassis basin', which is made up of soft unconsolidated deposits?

- Ans
- ☒ 1. Tripura
  - ☒ 2. Assam
  - ☒ 3. Mizoram
  - ☒ 4. Meghalaya

Q.2 If a 1352 m long train crosses a pole in 169 seconds, then find the time (in seconds) taken by the train to cross a 256 m long platform.

- Ans
- ☒ 1. 195
  - ☒ 2. 201
  - ☒ 3. 193
  - ☒ 4. 205

Q.3 Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusion(s) logically follow(s) from the statements.

Statements:

All ovals are bins. No bin is a car. No bin is a plum.

Conclusions:

(I): No oval is a car.

(II): Some plums are cars.

- 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.4** What should come in place of the question mark (?) in the given series based on the English alphabetical order?

VCF PWZ JQT DKN ?

Ans ☐ 1. EHX

☒ 2. XEH

☐ 3. XHE

☐ 4. EXH

**Q.5** What was the venue of the 23<sup>rd</sup> meeting of the Shanghai Cooperation Organisation (SCO) in 2024?

Ans ☒ 1. Islamabad, Pakistan

☐ 2. Dhaka, Bangladesh

☐ 3. Sanghai, China

☐ 4. New Delhi, India

**Q.6** Select the letter-cluster from among the given options that can replace the question mark (?) in the following series.

OHA MFY KDW IBU ?

Ans ☒ 1. GZS

☐ 2. GSZ

☐ 3. SGZ

☐ 4. SZG

**Q.7** A man sold an article for ₹390 by first giving a d% discount on its marked price, and then another discount having the same nominal value (in ₹). If the marked price of the article is ₹3900, then what is the value of d?

Ans ☐ 1. 48

☒ 2. 45

☐ 3. 50

☐ 4. 41

**Q.8** An electric motor converts electrical energy into:

Ans ☐ 1. electron energy

☐ 2. magnetic energy

☒ 3. mechanical energy

☐ 4. nuclear energy

**Q.9** What is the average of all the natural numbers from 1 to 87?

Ans ☐ 1. 44.5

☐ 2. 43.5

☐ 3. 45

☒ 4. 44

**Q.1** Pratap starts from Point A and drives 16 km towards south. He then takes a right turn, drives 13 km, turns right and drives 18 km. He then takes a right turn and drives 18 km. He takes a final right turn, drives 2 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90° turns only unless specified.)

Ans ☐ 1. 6 km to the west

☐ 2. 3 km to the west

☐ 3. 7 km to the west

☒ 4. 5 km to the west

Q.1 1 If 'A' stands for '+', 'B' stands for 'x', 'C' stands for '-' and 'D' stands for '÷', then what will be come in place of the question mark (?) in the following equation?

$$13 \text{ D } 32 \text{ C } 36 \text{ B } 49 \text{ A } 49 = ?$$

Ans ☒ 1. 19

☒ 2. 15

☒ 3. 18

☒ 4. 17

Q.1 2 Express the value of  $35.63 - 47.058 + 10.36 - 24.28 + 5.316 \times 5$  as

Ans ☒ 1.  $1\frac{29}{125}$

☒ 2.  $2\frac{13}{58}$

☒ 3.  $1\frac{31}{48}$

☒ 4.  $1\frac{21}{47}$

Q.1 3 Refer to the given number, symbol series and answer the question that follows.  
Counting to be done from left to right only.  
(Left) 7 5 ^ 5 + % 5 6 \$ 2 3 \* 6 + 3 & 4 ? \$ # 6 1 2 3 & 6 3 % @ (Right)  
How many such symbols are there each of which is immediately preceded by a number and immediately followed by another symbol?

Ans ☒ 1. 4

☒ 2. 1

☒ 3. 3

☒ 4. 2

Q.1 4 Two numbers are in the ratio 7 : 5. If the first number is increased by 14 and the second number is decreased by 5, then the ratio becomes 4 : 2. What is the sum of the original two numbers?

Ans ☒ 1. 106

☒ 2. 96

☒ 3. 115

☒ 4. 111

Q.1 5 Why is the depletion of the ozone layer a concern for humans?

Ans ☒ 1. It promotes plant growth.

☒ 2. It leads to increased water pollution.

☒ 3. It protects us from harmful radiation.

☒ 4. It increases soil fertility.

Q.1 6 Which of the following categories are NOT a class of consumers?

Ans ☒ 1. Carnivores

☒ 2. Herbivores

☒ 3. Parasites

☒ 4. Producers

**Q.1** What will come in the place of the question mark (?) in the following equation if '÷' and '×' are interchanged and '+' and '-' are interchanged?

$$10 + 52 - 13 \times 4 \div 18 = ?$$

**Ans** ☒ 1. 19

☒ 2. 26

☒ 3. 22

☒ 4. 24

**Q.1** In May 2024, the Indian Air Force successfully tested its Arogya Maitri Disaster Management Cube in \_\_\_\_\_.

**Ans** ☒ 1. Pokhran

☒ 2. Agra

☒ 3. Bhuj

☒ 4. Mysuru

**Q.1** Consider a conductor in the plane of the paper with current going from bottom to the top. What will be the direction of the magnetic field lines to the left of the conductor?

**Ans** ☒ 1. Perpendicular to the plane of the paper and going in.

☒ 2. Opposite to the direction of the current.

☒ 3. In the direction of the current.

☒ 4. Perpendicular to the plane of the paper and coming out.

**Q.2** If the interest earned during the 2nd year on a certain sum is ₹9911, and the rate of interest is 10% per annum compounded annually, then the sum is:

**Ans** ☒ 1. ₹90100

☒ 2. ₹90055

☒ 3. ₹90115

☒ 4. ₹90080

**Q.2** What is the name of the Lunar Polar Exploration Mission, a collaboration with Japan's JAXA which was approved by India's National Space Commission in October 2024?

**Ans** ☒ 1. Lupex

☒ 2. Mopex

☒ 3. SpaceX

☒ 4. Moonet

**Q.2** A and B complete a work in 17 days. If A alone can do it in 34 days then, B alone can do in \_\_\_\_\_(days).

**Ans** ☒ 1. 34

☒ 2. 35

☒ 3. 36

☒ 4. 33

**Q.2** A shopkeeper bought an article for ₹760. At what price (in ₹) should he sell the article to make 30% profit?

**Ans** ☒ 1. 988

☒ 2. 532

☒ 3. 976

☒ 4. 1000

**Q.2**  
**4** Which of the following Constitution Amendments empowers Parliament to establish common High court for two or more than two States?

- Ans**
- ☐ 1. 6<sup>th</sup> Constitutional Amendment Act
  - ☐ 2. 8<sup>th</sup> Constitutional Amendment Act
  - ☒ 3. 7<sup>th</sup> Constitutional Amendment Act
  - ☐ 4. 9<sup>th</sup> Constitutional Amendment Act

**Q.2**  
**5** Who is the author of 'Fiction as History: The Novel and the City in Modern North India,' published in 2019?

- Ans**
- ☒ 1. Vasudha Dalmia
  - ☐ 2. Arundhati Roy
  - ☐ 3. Salman Rushdie
  - ☐ 4. Jhumpa Lahiri

**Q.2**  
**6** Match the Following:

Column A	Column B
1. Marginal Efficiency of Capital	A. Spending on consumer goods
2. Autonomous Investment	B. Tendency for employment to fluctuate
3. Consumption Function	C. Expected rate of return on investment
4. Paradox of Thrift	D. Investment independent of income
5. Cyclical Unemployment	E. Increased saving reduces total demand

- Ans**
- ☐ 1. 1 - E, 2 - D, 3 - A, 4 - C, 5 - B
  - ☐ 2. 1 - B, 2 - D, 3 - A, 4 - E, 5 - C
  - ☒ 3. 1 - C, 2 - D, 3 - A, 4 - E, 5 - B
  - ☐ 4. 1 - A, 2 - D, 3 - C, 4 - E, 5 - B

**Q.2**  
**7** Aman completes his journey in 14 hours. He covers half the distance at 39 km/h and the rest at 45 km/h. What is the length of the journey (in Km)?

- Ans**
- ☐ 1. 592
  - ☒ 2. 585
  - ☐ 3. 594
  - ☐ 4. 591

**Q.2**  
**8** Why do non-biodegradable wastes cause environmental problems?

- Ans**
- ☐ 1. They are toxic to plants only.
  - ☒ 2. They remain in the environment for a long time.
  - ☐ 3. They increase soil fertility.
  - ☐ 4. They can be easily recycled.

**Q.2**  
**9** A number when increased by 50 %, gives 3030. The number is:

- Ans**
- ☐ 1. 1010
  - ☐ 2. 4040
  - ☐ 3. 6060
  - ☒ 4. 2020

Q.3 0	Which ion reduces at the cathode during electrolysis of fresh brine solution?
Ans	<input checked="" type="checkbox"/> 1. $\text{Na}^+$
	<input checked="" type="checkbox"/> 2. $\text{OH}^-$
	<input checked="" type="checkbox"/> 3. $\text{H}^+$
	<input checked="" type="checkbox"/> 4. $\text{Cl}^-$

Q.3 1	Which metal is placed at the top of the reactivity series?
Ans	<input checked="" type="checkbox"/> 1. Copper
	<input checked="" type="checkbox"/> 2. Iron
	<input checked="" type="checkbox"/> 3. Silver
	<input checked="" type="checkbox"/> 4. Potassium

Q.3 2	<p>A question is given, followed by two statements labelled I and II. Identify which of the statements is/are sufficient to answer the question.</p> <p>A, B, C, D and E are sitting in a straight line facing north. Who sits on the extreme left end?</p> <p>(I) Exactly 2 people sit between A and E. (II) Exactly 2 people sit between B and C.</p>
Ans	<input checked="" type="checkbox"/> 1. Both Statements I and II put together (and not independently) are sufficient to answer the question.
	<input checked="" type="checkbox"/> 2. Data in Statement I alone is sufficient to answer the question, while data in Statement II alone is not.
	<input checked="" type="checkbox"/> 3. Both Statements I and II put together are not sufficient to answer the question.
	<input checked="" type="checkbox"/> 4. Data in Statement II alone is sufficient to answer the question, while data in Statement I alone is not.

Q.3 3	Find the simple interest (in closest integral ₹) on ₹3000 at 8% per annum rate of interest for the period from 22 February 2024 to 23 April 2024
Ans	<input checked="" type="checkbox"/> 1. 38
	<input checked="" type="checkbox"/> 2. 40
	<input checked="" type="checkbox"/> 3. 39
	<input checked="" type="checkbox"/> 4. 41

Q.3 4	PN is a secant intersecting a circle at points M and N such that $PN > PM$ . A tangent PT is drawn to the circle touching it at T. If $PM = 32$ cm and $PT = 40$ cm, what is the length (in cm) of the chord MN?
Ans	<input checked="" type="checkbox"/> 1. 20
	<input checked="" type="checkbox"/> 2. 36
	<input checked="" type="checkbox"/> 3. 50
	<input checked="" type="checkbox"/> 4. 18

Q.3 5	L is brother of K. Q is married to N. Z is mother of L. N is daughter of Z. P is wife of K. How is Q related to K?
Ans	<input checked="" type="checkbox"/> 1. Sister's husband
	<input checked="" type="checkbox"/> 2. Mother's father
	<input checked="" type="checkbox"/> 3. Father's brother
	<input checked="" type="checkbox"/> 4. Brother

Q.3 6	The Khilafat committee was formed in Bombay, to defend temporal powers of Khalifa, in _____.
Ans	<input type="radio"/> 1. July 1919
	<input type="radio"/> 2. June 1919
	<input checked="" type="radio"/> 3. March 1919
	<input type="radio"/> 4. January 1919

Q.3 7	Among five people named A, B, C, D and E, each has a certain age. D is four times the age of C. A is two times the age of C. D is five times the age of B. The age of B is 12. If E is thrice the age of A, what is the age of E?
Ans	<input checked="" type="radio"/> 1. 90
	<input type="radio"/> 2. 92
	<input type="radio"/> 3. 88
	<input type="radio"/> 4. 94

Q.3 8	According to the Annual Report 2019-20 of the Ministry of Textiles, India's textile industry contributes what percentage to the industry output, in value terms?
Ans	<input checked="" type="radio"/> 1. 7%
	<input type="radio"/> 2. 6%
	<input type="radio"/> 3. 15%
	<input type="radio"/> 4. 18%

Q.3 9	Which of the following best describes why ionic compounds like potassium bromide (KBr) do NOT conduct electricity in solid form but do in molten form?
Ans	<input type="radio"/> 1. Solid KBr consists of neutral atoms with no free electrons.
	<input type="radio"/> 2. Solid KBr has weak ions that do not conduct electricity.
	<input checked="" type="radio"/> 3. Ionic bonds prevent ion movement in solid KBr.
	<input type="radio"/> 4. In molten form, KBr decomposes into gaseous atoms.

Q.4 0	Refer to the following number and symbol series and answer the question that follows. Counting to be done from left to right only. (Left) 6 \$ < 8 1 ^ 3 * 2 @ 7 # 4 & 5 % @ 9 (Right) If all the symbols are dropped from the series, which of the following will be fifth from right?
Ans	<input checked="" type="radio"/> 1. 2
	<input type="radio"/> 2. 7
	<input type="radio"/> 3. 4
	<input type="radio"/> 4. 5

Q.4 1	Ravi has purchased an aquarium and was surprised to know that regular cleaning of aquariums is essential. Why does it have to be regularly cleaned?
Ans	<input type="radio"/> 1. Dead fish and plants may spoil the electric supply of the aquarium.
	<input type="radio"/> 2. Dead fish and plants are decomposed by microorganisms and smell bad.
	<input type="radio"/> 3. Dead fish and plants may spoil the aeration system of the aquarium.
	<input checked="" type="radio"/> 4. Dead fish and plants should be disposed of in the soil, not in water.

Q.4 2	Garden is an ecosystem because:
Ans	<input checked="" type="checkbox"/> 1. it has both plants, trees and animals like insects, frogs, birds, etc., as biotic components
	<input checked="" type="checkbox"/> 2. the living organisms in it interact with each other and are not affected by abiotic components
	<input checked="" type="checkbox"/> 3. the living organisms in it interact with each other and are affected by abiotic components
	<input checked="" type="checkbox"/> 4. it has only biotic components like plants, trees and flowers

Q.4 3	44 men can do a piece of work in 48 days. The number of men required to complete the same work in 8 days is:
Ans	<input checked="" type="checkbox"/> 1. 264
	<input checked="" type="checkbox"/> 2. 260
	<input checked="" type="checkbox"/> 3. 266
	<input checked="" type="checkbox"/> 4. 261

Q.4 4	In which of the following cases did the Supreme Court mention that the Fundamental Right to Primary Education is the Right to Life under Article 21 of the Indian Constitution?
Ans	<input checked="" type="checkbox"/> 1. P Sambamurthy vs Union of India
	<input checked="" type="checkbox"/> 2. Navtej Singh Johar vs Union of India
	<input checked="" type="checkbox"/> 3. Unni Krishnan vs State of Andhra Pradesh
	<input checked="" type="checkbox"/> 4. Shreya Singhal vs Union of India

Q.4 5	The marks scored by 10 students are given below. 14, 15, 16, 17, 10, 17, 19, 13, 14, 14 The mode of the data is:
Ans	<input checked="" type="checkbox"/> 1. 17
	<input checked="" type="checkbox"/> 2. 15
	<input checked="" type="checkbox"/> 3. 14
	<input checked="" type="checkbox"/> 4. 16

Q.4 6	If the radius of a hemisphere is increased by 50%, then find the perce
	◀ <input type="text"/> ▶
Ans	<input checked="" type="checkbox"/> 1. 137.5%
	<input checked="" type="checkbox"/> 2. 125%
	<input checked="" type="checkbox"/> 3. 150%
	<input checked="" type="checkbox"/> 4. 112.5%

Q.4  
7

If the mean of the following data is 37, then the value of X is:

xi	20	30	40	85
fi	19	X	13	24

Ans

☒ 1. 106

☒ 2. 107

☒ 3. 124

☒ 4. 125



Q.4 8	What industrial method is most typically used to produce sodium hydroxide (NaOH)?
Ans	<div>✓ 1. Electrolysis of brine</div> <div>✗ 2. Castner-Kellner process</div> <div>✗ 3. Contact process</div> <div>✗ 4. Haber process</div>

Q.4 9	In a certain code language, 'PLOT' is coded as '9137' and 'LIFE' is coded as '4872'. What is the code for 'L' in the given code language?
Ans	<div>✓ 1. 7</div> <div>✗ 2. 1</div> <div>✗ 3. 4</div> <div>✗ 4. 3</div>

Q.5 0	If 214 apples were distributed among Ajay, Amit, and Amar in the ratio
	<div>◀</div> <div></div> <div>▶</div>
Ans	<div>✗ 1. 40</div> <div>✓ 2. 70</div> <div>✗ 3. 100</div> <div>✗ 4. 80</div>

Q.5 1	Write the expanded form of $(6a + 5b + 8c)^2$ .
Ans	<div>✗ 1. <math>36a^2 + 25b^2 + 64c^2 + 64ab + 80bc + 96ac</math></div> <div>✗ 2. <math>36a^2 + 25b^2 + 64c^2 + 60ab + 80bc + 106ac</math></div> <div>✓ 3. <math>36a^2 + 25b^2 + 64c^2 + 60ab + 80bc + 96ac</math></div> <div>✗ 4. <math>36a^2 + 25b^2 + 64c^2 + 60ab + 75bc + 96ac</math></div>

Q.5 2	Sangeeta and Hemlata invest in a business in the ratio 1 : 3. If total profit is Rs. 2568, then what is difference between the profit (in Rs.) of Sangeeta and Hemlata?
Ans	<div>✗ 1. 1184</div> <div>✗ 2. 1334</div> <div>✓ 3. 1284</div> <div>✗ 4. 1384</div>

Q.5 3	Select the letter-cluster pair that best represents a similar relationship to the one expressed in the pairs of letter-clusters given below.  OQP : PTO VVV : WZU
Ans	<div>✓ 1. HFN : IIM</div> <div>✗ 2. NEO : OHL</div> <div>✗ 3. KND : LQF</div> <div>✗ 4. QEK : RHI</div>

**Q.5**  
**4** Which of the following letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of ::?  
# : DHJ :: BFH : %

- Ans**
- ✓ 1. # = JNP, % = VZB
  - ✗ 2. # = JNP, % = WZB
  - ✗ 3. # = KNP, % = VZB
  - ✗ 4. # = JNP, % = VZO

**Q.5**  
**5** Manyakheta was the capital of which of following dynasties during the eighth century AD?

- Ans**
- ✓ 1. Rashtrakuta
  - ✗ 2. Pratiharas
  - ✗ 3. Chera
  - ✗ 4. Pala

**Q.5**  
**6** Which of the following options represents the correct Lewis structure for methane (CH<sub>4</sub>)?

- Ans**
- ✗ 1. A carbon atom bonded to two hydrogen atoms with double bonds
  - ✓ 2. A carbon atom bonded to four hydrogen atoms with single bonds
  - ✗ 3. A carbon atom bonded to one hydrogen atom with a double bond
  - ✗ 4. A carbon atom bonded to four hydrogen atoms with triple bonds

**Q.5**  
**7** Write the expanded form of  $(5a + 7b + 3c)^2$ .

- Ans**
- ✓ 1.  $25a^2 + 49b^2 + 9c^2 + 70ab + 42bc + 30ac$
  - ✗ 2.  $25a^2 + 49b^2 + 9c^2 + 74ab + 42bc + 30ac$
  - ✗ 3.  $25a^2 + 49b^2 + 9c^2 + 70ab + 37bc + 30ac$
  - ✗ 4.  $25a^2 + 49b^2 + 9c^2 + 70ab + 42bc + 40ac$

**Q.5**  
**8** 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. CJSX
  - ✗ 2. BIRW
  - ✓ 3. JQZF
  - ✗ 4. UBKP

**Q.5**  
**9** What impact does human activities have on the environment?

- Ans**
- ✗ 1. They help in waste disposal
  - ✗ 2. Only a positive impact
  - ✓ 3. They contribute to environmental pollution
  - ✗ 4. No impact

Q.6 0	Select the letter-cluster pair that best represents a similar relationship to the one expressed in the pairs of letter-clusters given below.  NGJ : OJE MHK : NKF
Ans	<input checked="" type="checkbox"/> 1. XHJ : YKF
	<input checked="" type="checkbox"/> 2. KNI : LQD
	<input checked="" type="checkbox"/> 3. JJK : KME
	<input checked="" type="checkbox"/> 4. LMO : MOJ

Q.6 1	If a conductor follows the Ohm's law, then the graph between current and voltage will be a/an _____.
Ans	<input checked="" type="checkbox"/> 1. ellipse
	<input checked="" type="checkbox"/> 2. hyperbola
	<input checked="" type="checkbox"/> 3. parabola
	<input checked="" type="checkbox"/> 4. straight line

Q.6 2	How many seats did the Bhartiya Janata Party win in the Jammu & Kashmir assembly elections held in 2024?
Ans	<input checked="" type="checkbox"/> 1. 39
	<input checked="" type="checkbox"/> 2. 19
	<input checked="" type="checkbox"/> 3. 29
	<input checked="" type="checkbox"/> 4. 49

Q.6 3	What should come in place of the question mark (?) in the given series? 18 49 18 45 18 41 18 ?
Ans	<input checked="" type="checkbox"/> 1. 31
	<input checked="" type="checkbox"/> 2. 34
	<input checked="" type="checkbox"/> 3. 37
	<input checked="" type="checkbox"/> 4. 29

Q.6 4	A wire has a resistance of R. If its length is increased by a factor of 8 and its cross-sectional area is decreased by a factor of 4, what is its new resistance (R')?
Ans	<input checked="" type="checkbox"/> 1. $R' = 2 R$
	<input checked="" type="checkbox"/> 2. $R' = 8 R$
	<input checked="" type="checkbox"/> 3. $R' = 32 R$
	<input checked="" type="checkbox"/> 4. $R' = 16 R$

Q.6 5	What should come in place of the question mark (?) in the given series? 180 131 90 57 32 ?
Ans	<input checked="" type="checkbox"/> 1. 22
	<input checked="" type="checkbox"/> 2. 20
	<input checked="" type="checkbox"/> 3. 17
	<input checked="" type="checkbox"/> 4. 15

Q.6 6	What is formed when ammonium dichromate is heated?
Ans	<input checked="" type="checkbox"/> 1. Chromium oxide and water
	<input checked="" type="checkbox"/> 2. Chromium and oxygen
	<input checked="" type="checkbox"/> 3. Chromium oxide and nitrogen
	<input checked="" type="checkbox"/> 4. Nitrogen, oxygen and chromium oxide

**Q.6** The cost of a washing machine is 40% less than the cost of a TV. If the cost of the washing machine increases by 64% and that of the TV decreases by 20%, then what is the change in the total cost of 5 washing machines and 7 TVs?

- Ans**
- ☐ 1. Decrease by 5%
  - ☐ 2. Increase by 13%
  - ☐ 3. Decrease by 4%
  - ☒ 4. Increase by 5.2%

**Q.6** Combination reaction can be represented as:

- Ans**
- ☒ 1.  $AB + C \rightarrow ABC$
  - ☐ 2.  $ABC \rightarrow AB + C$
  - ☐ 3.  $AB + CD \rightarrow AD + CD$
  - ☐ 4.  $AB + C \rightarrow CB + A$

**Q.6** A, B, C, D, E and F live on six different floors of the same building. The lowermost floor in the building is numbered 1, the floor above it, number 2 and so on till the topmost floor is numbered 6. E lives on an even numbered floor but not 6. The sum of floors on which A and E live is 7. F lives immediately above B. The sum of floors on which E and D live is 3. How many people live between A and D?

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

**Q.7** Rashmi wants to make compost for her kitchen garden. She plans to use kitchen wastes. Which set of articles is best suited for her work?

- Ans**
- ☐ 1. Peels of fruits, leftover vegetables, paper, packing sheets.
  - ☐ 2. Peels of fruits, leftover vegetables, plastic waste, old mobile phone.
  - ☒ 3. Peels of fruits, leftover vegetables, paper, torn cotton clothes.
  - ☐ 4. Peels of fruits, leftover vegetables, plastic waste, thermocol cups.

**Q.7** The average price of three items of furniture is Rs 16845. If their prices are in the ratio 3:5:7, the price of the cheapest item (in Rs) is

- Ans**
- ☒ 1. 10107
  - ☐ 2. 5615
  - ☐ 3. 7861
  - ☐ 4. 3369

**Q.7** What is the pH value of pure water at 25°C?

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

**Q.7** If a resistor of 15  $\Omega$  carries a current of 2.5 A for 12 seconds, the heat produced is \_\_\_\_\_ joules.

- Ans**
- ☐ 1. 900
  - ☒ 2. 1125
  - ☐ 3. 1800
  - ☐ 4. 450

Q.7 4	L, K, M, N, O and P are sitting around a circular table facing the centre. L sits fourth to the right of O. M sits second to the left of L. N is not the immediate neighbour of M. K sits second to the right of N. How many people are sitting between P and N, when counted from the left of N?
Ans	<input type="radio"/> 1. None
	<input checked="" type="radio"/> 2. One
	<input type="radio"/> 3. Two
	<input type="radio"/> 4. Three

Q.7 5	A, B, C, D, E, F and G live on seven different floors of the same building. The lowermost floor on the building is numbered 1, the floor above it, number 2 and so on, till the topmost floor is numbered 7. C lives on the sixth floor. Only three people live between C and F. A lives on an even numbered floor. D lives on one of the floors below B but immediately above F. E lives on one of the floors above C. Who lives on the lowermost floor?
Ans	<input checked="" type="radio"/> 1. G
	<input type="radio"/> 2. F
	<input type="radio"/> 3. E
	<input type="radio"/> 4. B

Q.7 6	The length of each of the two equal sides of an isosceles triangle is 89 cm each and the length of its base is 78 cm. The area (in $\text{cm}^2$ ) of the triangle is:
Ans	<input type="radio"/> 1. 3139
	<input type="radio"/> 2. 3134
	<input type="radio"/> 3. 3102
	<input checked="" type="radio"/> 4. 3120

Q.7 7	$\frac{(a^{10} \times b^3 \times c^9)}{(a^9 \times b^6 \times c^9)}$ in simplified form is:
Ans	<input type="radio"/> 1. $(a^{-1}) \times (b^{-9}) \times (c^{-8})$
	<input type="radio"/> 2. $(a^{-1}) \times (b^{-3}) \times (c^{-10})$
	<input checked="" type="radio"/> 3. $(a^1) \times (b^{-3}) \times (c^0)$
	<input type="radio"/> 4. $(a^1) \times (b^{-9}) \times (c^{-7})$

Q.7 8	Thermocol disposables are being widely used in parties and restaurants. By promoting this practice _____.
Ans	<input type="radio"/> 1. we are reducing expenses; disposables are cheap to use
	<input type="radio"/> 2. we are increasing the hygiene concern in us
	<input type="radio"/> 3. we are making the waste biodegradable
	<input checked="" type="radio"/> 4. we are increasing non-biodegradable waste

Q.7 9	A conductor has a current of 150 mA flowing through it with a resistance of 0.8 $\Omega$ . Find the potential difference across the conductor.
Ans	<input type="radio"/> 1. 120 V
	<input checked="" type="radio"/> 2. 0.12 V
	<input type="radio"/> 3. 18.75 V
	<input type="radio"/> 4. 5.3 V

Q.8 0	If a wire is stretched to quadruple its length without changing its area, what will happen to its resistivity?
Ans	<input checked="" type="checkbox"/> 1. It remains the same. <input type="checkbox"/> 2. It doubles. <input type="checkbox"/> 3. It halves. <input type="checkbox"/> 4. It quadruples.

Q.8 1	By selling an article at $\frac{2}{5}$ of its actual selling price, Manav incurs a loss
Ans	<input type="checkbox"/> 1. 56.9% <input type="checkbox"/> 2. 52.6% <input checked="" type="checkbox"/> 3. 53.3% <input type="checkbox"/> 4. 55.5%

Q.8 2	Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which letter-cluster pair DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)
Ans	<input checked="" type="checkbox"/> 1. NJ – SO <input type="checkbox"/> 2. VQ – ZU <input type="checkbox"/> 3. GB – KF <input type="checkbox"/> 4. MH – QL

Q.8 3	Write the expanded form of $(8a + 5b + 9c)^2$ .
Ans	<input type="checkbox"/> 1. $64a^2 + 25b^2 + 81c^2 + 80ab + 85bc + 144ac$ <input type="checkbox"/> 2. $64a^2 + 25b^2 + 81c^2 + 80ab + 90bc + 154ac$ <input type="checkbox"/> 3. $64a^2 + 25b^2 + 81c^2 + 84ab + 90bc + 144ac$ <input checked="" type="checkbox"/> 4. $64a^2 + 25b^2 + 81c^2 + 80ab + 90bc + 144ac$

Q.8 4	In a certain code, 'silence gold words' is coded as 'nu mh ke', 'gold is precious' is coded as 'mh bi py' and 'silence is calm' is coded as 'nu py gh'. What is the possible code for 'gold silence' in that language?
Ans	<input checked="" type="checkbox"/> 1. mh nu <input type="checkbox"/> 2. nu ke <input type="checkbox"/> 3. bi ke <input type="checkbox"/> 4. mh bi

Q.8 5	Evaluate $184^2$
Ans	<input checked="" type="checkbox"/> 1. 33856 <input type="checkbox"/> 2. 33866 <input type="checkbox"/> 3. 33806 <input type="checkbox"/> 4. 33836

Q.8 6	Evaluate: $16 + 18 \div 6 - 2 \times 3$
Ans	<input type="checkbox"/> 1. 12 <input type="checkbox"/> 2. 15 <input checked="" type="checkbox"/> 3. 13 <input type="checkbox"/> 4. 16

Q.8 7	Which of the following is the correct definition of a homologous series?
Ans	<div>✗ 1. A series of compounds having different functional groups</div> <div>✓ 2. A series of compounds having the same functional group and similar chemical properties</div> <div>✗ 3. A series of compounds having identical physical properties</div> <div>✗ 4. A series of compounds with the same molecular mass</div>

Q.8 8	Select the option in which the numbers share the same relationship as that shared by the given pairs of numbers. (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.)  18, 111 13, 81
Ans	<div>✓ 1. 15, 93</div> <div>✗ 2. 19, 114</div> <div>✗ 3. 12, 69</div> <div>✗ 4. 17, 104</div>

Q.8 9	Which of the following is/are responsible for the depletion of the ozone layer in the atmosphere?
Ans	<div>✗ 1. Ethane</div> <div>✗ 2. Hydrofluorocarbons</div> <div>✗ 3. Methane</div> <div>✓ 4. Chlorofluorocarbons</div>

Q.9 0	The average marks of a student in six subjects is 94. After re-evaluation in three subjects the marks were changed to 89 from 75, 90 from 82 and 88 from 80. In the remaining subjects, the marks remained unchanged. Find the new average marks.
Ans	<div>✗ 1. 95</div> <div>✗ 2. 97</div> <div>✗ 3. 98</div> <div>✓ 4. 99</div>

Q.9 1	What do the magnetic field lines around a bar magnet represent?
Ans	<div>✗ 1. The gravitational field</div> <div>✗ 2. The flow of air around the magnet</div> <div>✓ 3. The direction and strength of the magnetic field</div> <div>✗ 4. The movement of electrons around the magnet</div>

Q.9 2	Find the value of $\frac{\cos 35^\circ}{\sin 55^\circ} - \frac{\sin 11^\circ}{\cos 79^\circ} + \cos 28^\circ \operatorname{cosec} 62^\circ + \cos 0^\circ$ .
Ans	<div>✗ 1. 0</div> <div>✓ 2. 2</div> <div>✗ 3. 1</div> <div>✗ 4. -1</div>

<b>Q.9</b> <b>3</b>	The Fleming's right hand rule is used to find the:
<b>Ans</b>	<input checked="" type="checkbox"/> 1. direction of the magnetic field associated with a current carrying conductor <input checked="" type="checkbox"/> 2. direction of the gravitational field <input checked="" type="checkbox"/> 3. direction of the current of a current carrying conductor <input checked="" type="checkbox"/> 4. direction of the motion of the current carrying conductor

<b>Q.9</b> <b>4</b>	In a redox reaction, reduction can be described as:
<b>Ans</b>	<input checked="" type="checkbox"/> 1. loss of electrons <input checked="" type="checkbox"/> 2. addition of an electronegative element <input checked="" type="checkbox"/> 3. addition of oxygen <input checked="" type="checkbox"/> 4. addition of hydrogen

<b>Q.9</b> <b>5</b>	Which of the following articles deals with the office of the special officer for Linguistic Minorities?
<b>Ans</b>	<input checked="" type="checkbox"/> 1. 350-B <input checked="" type="checkbox"/> 2. 351-B <input checked="" type="checkbox"/> 3. 351-A <input checked="" type="checkbox"/> 4. 350-A

<b>Q.9</b> <b>6</b>	Which of the following teams won the 17 <sup>th</sup> Edition of Indian Premier League?
<b>Ans</b>	<input checked="" type="checkbox"/> 1. Kolkata Knight Riders <input checked="" type="checkbox"/> 2. Delhi Capitals <input checked="" type="checkbox"/> 3. Mumbai Indians <input checked="" type="checkbox"/> 4. Chennai Superkings

<b>Q.9</b> <b>7</b>	Select the option in which the numbers share the same relationship as that shared by the given pair of numbers. (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.)  <b>12, 113</b> <b>15, 140</b>
<b>Ans</b>	<input checked="" type="checkbox"/> 1. 14, 126 <input checked="" type="checkbox"/> 2. 8, 67 <input checked="" type="checkbox"/> 3. 17, 136 <input checked="" type="checkbox"/> 4. 11, 104

<b>Q.9</b> <b>8</b>	Mohan went to a cafe and ordered a soft drink. The waiter brought his order in a plastic glass with a plastic straw. Mohan, being environment friendly, is not happy as:
<b>Ans</b>	<input checked="" type="checkbox"/> 1. plastic glass and plastic straw is non biodegradable and persists in soil for a long time <input checked="" type="checkbox"/> 2. a plastic glass and plastic straw does not add to the standard of the cafe <input checked="" type="checkbox"/> 3. the plastic glass and plastic straw were not of his favourite colour <input checked="" type="checkbox"/> 4. plastic glass and plastic straw spoils the taste of the drink



Q.99	The potential difference, $V$ , across the ends of a given metallic wire in an electric circuit is directly proportional to the current flowing through it, provided its temperature remains the same. This is known as:
Ans	<div> <input checked="" type="checkbox"/> 1. Ohm's law                 </div> <div> <input type="checkbox"/> 2. Ampere's law                 </div> <div> <input type="checkbox"/> 3. Newton's law                 </div> <div> <input type="checkbox"/> 4. Resistance law                 </div>

Q.100	What is the primary function of 'viharas' in Buddhist architecture?
Ans	<div> <input type="checkbox"/> 1. To serve as meditation halls                 </div> <div> <input type="checkbox"/> 2. To house relics                 </div> <div> <input checked="" type="checkbox"/> 3. To serve as residential places for Buddhist priests                 </div> <div> <input type="checkbox"/> 4. To hold public gatherings                 </div>

2024/12/19-21:11:39