



रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARDS



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

Test Date	29/12/2024
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 An electric water heater converts electrical energy into _____.

- Ans
- ☒ 1. potential energy
 - ☒ 2. wind energy
 - ☒ 3. light energy
 - ☒ 4. heat energy

Q.2 Which of the following statements is/are correct related to transportation?

- (i) Arteries are the vessels which carry blood away from the heart to various organs of the body.
- (ii) The arteries have thin and elastic walls.
- (iii) Veins have valves that ensure that blood flows only in one direction.

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

Q.3 A pipe can fill a tank in 9 hours. Another pipe can empty the filled tank in 36 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. 4
 - ☒ 2. 8
 - ☒ 3. 12
 - ☒ 4. 16

Q.4 Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?

GJN ILP KNR MPT ?

- Ans
- ☒ 1. ORV
 - ☒ 2. ROV
 - ☒ 3. RVO
 - 4.

Q.5 What product will be formed when ethanol at 443K with excess concentrated sulphuric acid is heated?

- Ans**
- ☐ 1. Ethyne and hydrogen
 - ☐ 2. Ethane and water
 - ☒ 3. Ethene and water
 - ☐ 4. Only ethyne

Q.6 Known for its rich cultural heritage, which of the following is India's first UNESCO 'City of Literature'?

- Ans**
- ☐ 1. Bhopal
 - ☐ 2. Lucknow
 - ☒ 3. Kozhikode
 - ☐ 4. Jaipur

Q.7 Which of the following compounds is/are saturated?

- (i) C_2H_6
- (ii) C_3H_8
- (iii) C_2H_4
- (iv) C_4H_{10}

- Ans**
- ☒ 1. i, ii and iv
 - ☐ 2. i, ii and iii
 - ☐ 3. i and iv
 - ☐ 4. i and ii

Q.8 What product is formed in the chlor-alkali process?

- Ans**
- ☐ 1. Washing Soda
 - ☐ 2. Sodium Chloride
 - ☒ 3. Sodium Hydroxide
 - ☐ 4. Baking Soda

Q.9 The first and only disabled person to hold the position of State Commissioner for Persons with Disabilities in the history of state, awarded with Padma Shri in 2024, Dr. KS Rajanna belongs to which of the following Indian states?

- Ans**
- ☐ 1. Andhra Pradesh
 - ☐ 2. Tamil Nadu
 - ☒ 3. Karnataka
 - ☐ 4. Kerala

Q.10 A ray of light passing or appear to pass through the principal focus of a concave/convex mirror after reflection _____.

- Ans**
- ☒ 1. will emerge parallel to the principal axis
 - ☐ 2. will emerge perpendicular to the principal axis, only in the case of concave mirror
 - ☐ 3. will emerge perpendicular to the principal axis
 - 4.

Q.11 EHCF is related to ILGJ in a certain way based on the English alphabetical order. In the same way, HKFI is related to LOJM. To which of the following options is MPKN related, following the same logic?

- Ans**
- ☒ 1. QTOR
 - ☐ 2. TQRO
 - ☐ 3. QTRO
 - ☐ 4. TQOR

Q.12 Complex substances are broken down into simpler ones with the use of bio-catalysts called:

- Ans**
- ☐ 1. fat
 - ☐ 2. oil
 - ☐ 3. carbohydrates
 - ☒ 4. enzymes

Q.13 'Charaideo Moidam' of which of the following northeast Indian states were included in the UNESCO World Heritage list in July 2024?

- Ans**
- ☐ 1. Tripura
 - ☒ 2. Assam
 - ☐ 3. Nagaland
 - ☐ 4. Arunachal Pradesh

Q.14 A, B, E, F, P, Q and R are sitting around a circular table facing the centre. A sits second to the right of B. Only one person sits between B and E. R sits to the immediate right of F. P is not an immediate neighbour of E. Who sits third to the left of Q?

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

Q.15 Flexibility in plants is due to:

- Ans**
- ☐ 1. sclerenchyma
 - ☒ 2. collenchyma
 - ☐ 3. cambium
 - ☐ 4. parenchyma

Q.16 In a triangular glass prism, there is/are _____.

- Ans**
- ☐ 1. one triangular base and three rectangular lateral surfaces
 - ☐ 2. three triangular bases and one rectangular lateral surface
 - ☒ 3. two triangular bases and three rectangular lateral surfaces
 - ☐ 4. three triangular bases and three rectangular lateral surfaces

Q.17 Which of the following options should come in place of the question mark (?) in the given series to make it logically complete?

18, 23, 33, 48, 68, ?

- Ans**
- ☐ 1. 90
 - ☒ 2. 93
 - ☐ 3. 85
 - ☐ 4. 95

Q.18 Identify the gas that is evolved when magnesium and manganese react with nitric acid.

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

Q.19 In a certain code language,
‘P – Q’ means ‘P is the brother of Q’,
‘P – Q’ means ‘P is the daughter of Q’,
‘P x Q’ means ‘P is the wife of Q’ and
‘P ÷ Q’ means ‘P is the son of Q’.
How is A related to E if ‘A + B – C x D ÷ E’?

- Ans**
- ☐ 1. Brother
 - ☐ 2. Daughter’s son
 - ☐ 3. Son
 - ☒ 4. Son’s son

Q.20 The value of Universal Gravitational constant is G on a certain planet of mass M, on another planet of mass 4M, the value of the Universal Gravitational constant will be:

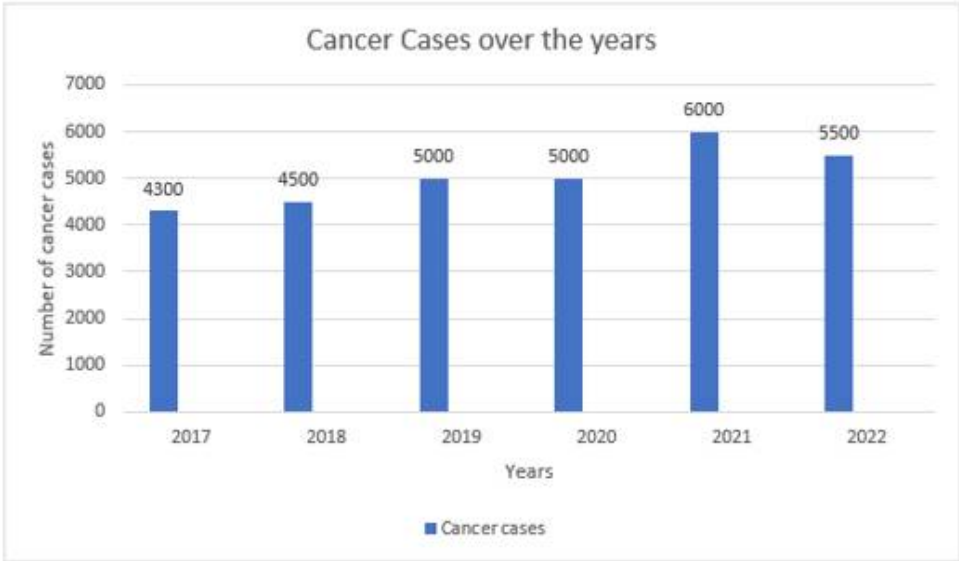
- Ans**
- ☐ 1. 4G
 - ☐ 2. G/2
 - ☒ 3. G
 - ☐ 4. Zero

Q.21 Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which pair does not belong to that group?

(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

- Ans**
- ☐ 1. WT-XZ
 - ☒ 2. RO-SV
 - ☐ 3. UR-VX
 - ☐ 4. NK-OQ

Q.22 Study the following bar graph and answer the question below.



What is the average number of cancer cases over the years?

- Ans
- ☐ 1. 5550
 - ☐ 2. 5005
 - ☒ 3. 5050
 - ☐ 4. 5500

Q.23 In an election between two candidates, the candidate who won received 1854 votes, whereas the candidate who lost received 618 votes. What percentage of the total number of votes received by the two candidates went in favour of the winning candidate?

- Ans
- ☐ 1. 60%
 - ☒ 2. 75%
 - ☐ 3. 70%
 - ☐ 4. 80%

Q.24 A cistern 6m long and 4 m wide contains water up to a depth of 1 m 25 cm. The total area of the wet surface is:

- Ans
- ☐ 1. 50 m²
 - ☐ 2. 53.5 m²
 - ☐ 3. 55 m²
 - ☒ 4. 49 m²

Q.25 Seven people, A, B, C, D, E, F and G, are sitting in a row, facing north. No one sits to the right of A. Only four people sit between D and B. E sits second to the right of D. C sits to the immediate left of F. How many people sit between G and B?

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

Q.26 Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?
HKO, JMQ, LOS, NQU, ?

- Ans**
- ☐ 1. SPW
 - ☐ 2. SWP
 - ☒ 3. PSW
 - ☐ 4. PWS

Q.27 If the mean and the mode of a particular data set are 36 and 63, respectively, then, using an empirical relation, find the value of the median of the same data set.

- Ans**
- ☐ 1. 55
 - ☒ 2. 45
 - ☐ 3. 40
 - ☐ 4. 39

Q.28 The ratio of the present ages of Manmohan and his wife Manpreet is 7 : 6. After 6 years, the ratio of their ages will be 8 : 7. If at the time of marriage, the ratio of their ages was 4 : 3, then how many years ago from now did they get married?

- Ans**
- ☐ 1. 13 years
 - ☒ 2. 18 years
 - ☐ 3. 16 years
 - ☐ 4. 15 years

Q.29 Who among the following are the founders of the Indian startup Zepto, who have emerged as the youngest billionaires in India according to the 2024 Hurun Rich List?

- Ans**
- ☒ 1. Kaivalya Vohra and Aadit Palicha
 - ☐ 2. Asit Biswal and Rajesh Pradhan
 - ☐ 3. Girish Redekar and Raghuveer Kancherla
 - ☐ 4. Kabeer Biswas and Ankur Agarwal

Q.30 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 walls are roofs.

All roofs are cats.

All cats are grasses.

Conclusions:

(I) Some grasses are walls.

(II) All grasses are roofs.

- 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.31 The sum of three consecutive multiples of 6 is 3240, find the smallest one.

- Ans**
- ☐ 1. 1054
 - ☒ 2. 1074
 - ☐ 3. 1006
 - ☐ 4. 1086

Q.32 The laws of reflection are applicable to _____.

- Ans**
- ☒ 1. both plane and spherical surfaces
 - ☐ 2. neither plane surfaces nor spherical surfaces
 - ☐ 3. only to spherical surface and not to plane surfaces
 - ☐ 4. only to plane surfaces and not to spherical surfaces

Q.33 Select the correct statement.

- Ans**
- ☐ 1. One oviduct forms the uterus.
 - ☐ 2. Many eggs are produced every month by the ovary.
 - ☐ 3. The fallopian tube is also known as womb.
 - ☒ 4. When a girl is born, the ovaries already contain thousands of immature eggs.

Q.34 What is used in the preparation of calcium sulphate hemihydrate?

- Ans**
- ☐ 1. Copper Sulphate
 - ☒ 2. Gypsum
 - ☐ 3. Sodium Hydrogen Carbonate
 - ☐ 4. Sodium Carbonate

Q.35 The chemical formula of ammonium sulphate is _____.

- Ans**
- ☒ 1. $(\text{NH}_4)_2\text{SO}_4$
 - ☐ 2. $(\text{NH}_4)\text{SO}_4$
 - ☐ 3. Ca_2SO_4
 - ☐ 4. Na_2SO_4

Q.36 If 'A' stands for '+', 'B' stands for '×', 'C' stands for '+', and 'D' stands for '−', then the resultant of which of the following would be 26?

- Ans**
- ☐ 1. 29 A 34 D 2 B 4 C 5
 - ☒ 2. 29 C 34 A 2 D 4 B 5
 - ☐ 3. 29 B 34 C 2 A 4 D 5
 - ☐ 4. 29 D 34 B 2 C 4 A 5

Q.37 Select the triad which follows the same pattern as that followed by the two triads given below. Both triads follow the same pattern.

TODE - EOTD - ODTE

FAST - TAFS - ASFT

- Ans**
- ☒ 1. BACK - KABC - ACBK
 - ☐ 2. GREW - GERW - WERG
 - ☐ 3. NEST - TENS - SENT
 - ☐ 4. PACK - APCK - KACP

Q.38 What is the primary goal of the NASA-ISRO Synthetic Aperture Radar (NISAR) mission?

- Ans**
- ☐ 1. Space tourism
 - ☐ 2. Trade monitoring
 - ☒ 3. Climate action
 - ☐ 4. Defense satellites

Q.39 B is thrice as good a workman as A and therefore is able to finish a job in 60 days less than A. Working together, they can do it in:

- Ans**
- ☒ 1. $22\frac{1}{2}$ days
 - ☐ 2. 30 days
 - ☐ 3. 25 days
 - ☐ 4. 20 days

Q.40 In a certain code language, 'VOCAL' is coded as '46218' and 'OVALS' is coded as '68514'. What is the code for 'S' in the given code language?

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

Q.41 The list price of a washing machine is ₹13,200. It is sold to a retailer after a 20% discount. What is the cost price of the washing machine to the retailer?

- Ans**
- ☒ 1. ₹10,560
 - ☐ 2. ₹10,660
 - ☐ 3. ₹11,560
 - ☐ 4. ₹11,660

Q.42 A resistor has a resistivity ρ . This resistor is now cut into three equal parts. The resistivity of each part will be:

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

Q.43 A perfect square number can never have the digit _____ at the units' place.

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

Q.44 Which of the following metals is least reactive with acids?

- Ans**
- ☐ 1. Zinc
 - ☐ 2. Iron
 - ☐ 3. Aluminium
 - ☒ 4. Copper

Q.45 A constant force F is applied on an object. The work done by the force is positive if the object:

- Ans**
- ☐ 1. Is displaced opposite to the direction of the force
 - ☒ 2. is displaced in the direction of the force
 - ☐ 3. is displaced perpendicular to the force
 - ☐ 4. is not displaced

Q.46 Refer to the given number and symbol series and answer the question that follows. Counting to be done from left to right only.

(Left) 7 & 3 Ω 9 5 & 4 6 @ 8 S # 1 * £ 5 (Right)

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

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

Q.47 At what rate (in percentage) per annum simple interest will a sum of money double itself in 8 years?

- Ans**
- ☐ 1. 5.6%
 - ☒ 2. 12.5%
 - ☐ 3. 2.5%
 - ☐ 4. 6.25%

Q.48 A ribbon of length 8 m 54 cm is cut into 7 pieces of equal length. The length of each piece is:

- Ans**
- ☒ 1. 1.22 m
 - ☐ 2. 1.32 m
 - ☐ 3. 1.12 m
 - ☐ 4. 1.02 m

Q.49 Simplify the following expression:

$$\frac{\cos \theta}{1 + \sin \theta} + \frac{1 + \sin \theta}{\cos \theta}$$

Ans  1. $2 \sec \theta$

 2. $1 + 2 \sin \theta$

 3. $2 \sin \theta$

 4. $2 \cos \theta$

Q.50 Find the value of $(10001 + 12)(10001 - 12)$.

Ans  1. 1000019857

 2. 10019857

 3. 1000190857

 4. 100019857

Q.51 Which of the following is a function of epithelial tissues?

Ans  1. Responsible for involuntary movements

 2. Provides response to stimulus

 3. Protection

 4. Storage of fats

Q.52 Which of the following statements is/are true for the gravitational force between two bodies:

(i) It is repulsive in nature.

(ii) It's magnitude is same throughout the universe.

(iii) It is directly proportional to the product of the masses of the bodies.

(iv) Due to this force the earth goes around the sun.

Ans  1. Both (i) and (ii)

 2. Only (iii)

 3. Both (ii) and (iii)

 4. Both (iii) and (iv)

Q.53 Apical meristem is present in which of the following?

Ans  1. Plants

 2. Animals

 3. Bacteria

 4. Virus

Q.54	Which of the following options should come in place of the question mark (?) in the given series to make it logically complete? 274, 252, 282, 260, 290, 268,?
Ans	 1. 272  2. 280  3. 284  4. 298
Q.55	Rajiv starts from point A and drives 2 km towards the West. He then takes a right turn and drives 1 km. He then takes a left turn and drives 3 km. He takes another left turn and drives 1 km. He then takes a final left turn and drives 4 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. 1 km South  2. 1 km East  3. 1 km West  4. 1 km North
Q.56	Which team won the title of World Championship of Legends 2024 in cricket?
Ans	 1. Pakistan  2. Sri Lanka  3. Australia  4. India
Q.57	Which Australian vessel participated in Exercise Malabar, 2024?
Ans	 1. HMAS Sydney  2. HMAS Stuart  3. HMAS Hobart  4. HMAS Adelaide
Q.58	The number of chromosomes become half in a daughter cell by the process of:
Ans	 1. binary fission  2. amitosis  3. mitosis  4. meiosis
Q.59	In a mixture of 80 litres, the ratio of milk to water is 3 : 1. The quantity of milk in the mixture is:
Ans	 1. 40 litres  2. 80 litres  3. 20 litres  4. 60 litres
Q.60	When did the National Human Rights Commission (NHRC) issue an advisory to the Centre, the states and UT administrations to ensure widows' welfare and the protection of their human rights, including the establishment of a 'widows' cell' in each district?
Ans	 1. June 2024  2. April 2024  3. May 2024  4. August 2024

Q.61 Rajveer has invested ₹16,000 at 10% p.a. for 1 year on compound interest, compounded half-yearly. The amount received by him will be:

- Ans**
- ☐ 1. ₹16,354
 - ☐ 2. ₹17,830
 - ☐ 3. ₹16,542
 - ☒ 4. ₹17,640

Q.62 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 tigers are lions.
Some lions are cheetahs.
Conclusions:
I. Some lions are tigers.
II. Some tigers are cheetahs.

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

Q.63 Which of the following non-metals is liquid at room temperature?

- Ans**
- ☐ 1. Fluorine
 - ☐ 2. Oxygen
 - ☐ 3. Mercury
 - ☒ 4. Bromine

Q.64 Which of the following is the longest cell in our body?

- Ans**
- ☒ 1. Nerve cell
 - ☐ 2. Ovum
 - ☐ 3. Blood cell
 - ☐ 4. Fat cell

Q.65 Seven boxes, A, B, E, F, L, M and P, are kept one over the other but not necessarily in the same order. Only two boxes are kept between L and B. Only A is kept above E. No box is kept below B. M is kept at some place below F but at some place above P. Which box is kept third above P?

- Ans**
- ☐ 1. L
 - ☐ 2. E
 - ☐ 3. A
 - ☒ 4. F

Q.66 _____ தண்டு அல்லது வேரை விட்டத்தில் பெரிதாக்குகிறது.

- Ans**
- ☐ 1. பக்கவாட்டு பிரியிழையம் (Underneath meristem)
 - ☐ 2. நுனி ஆக்கு திசு (Apical meristem)
 - ☒ 3. காம்பியம்(Cambium)
 - ☐ 4. இடைஆக்குத் திசு (Intercalary meristem)

Q.67 Which of the following is NOT the correct relation between electric power (P), electric current(I), electric potential difference (V) and resistance(R):

- Ans**
- ☒ 1. $P = \frac{V^2}{R}$
 - ☒ 2. $P = VI$
 - ☒ 3. $P = I^2 R$
 - ☒ 4. $P = IR$

Q.68 Which of the following statements is NOT true regarding the particles of matter?

- Ans**
- ☒ 1. They attract each other.
 - ☒ 2. They do not have spaces in between them.
 - ☒ 3. They are very small.
 - ☒ 4. They are moving constantly.

Q.69 What will come in the place of '?' in the following equation, if '+' and '-' are interchanged?

$23 - 7 \times 15 \div 5 + 17 = ?$

- Ans**
- ☒ 1. 30
 - ☒ 2. 24
 - ☒ 3. 27
 - ☒ 4. 25

Q.70 The radius of curvature of any mirror is +20 cm. What is the focal length and nature of this mirror?

- Ans**
- ☒ 1. -40 cm, convex
 - ☒ 2. +10 cm, convex
 - ☒ 3. +40 cm, concave
 - ☒ 4. +10 cm, concave

Q.71 Which of the following hydrocarbons generally produces a clean flame?

- Ans**
- ☒ 1. Ethylene
 - ☒ 2. Ethane
 - ☒ 3. Ethene
 - ☒ 4. Ethyne

Q.72 Refer to the given number and symbol series and answer the question that follows. Counting to be done from left to right only.

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

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

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

Q.73 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 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 : 56 :: 84 : Y

- Ans**
- ☒ 1. X = 96, Y = 54
 - ☒ 2. X = 92, Y = 48
 - ☒ 3. X = 108, Y = 62
 - ☒ 4. X = 98, Y = 32

Q.74 The equivalent fraction of 5.2222..... is:

- Ans**
- ☒ 1. $\frac{47}{9}$
 - ☒ 2. $\frac{48}{100}$
 - ☒ 3. $\frac{422}{99}$
 - ☒ 4. $\frac{38}{9}$

Q.75 Which of the following electrolytes is used in electrolytic refining of copper?

- Ans**
- ☒ 1. CuO
 - ☒ 2. Cu₂Cl₂
 - ☒ 3. Na₂SO₄
 - ☒ 4. CuSO₄

Q.76 What is the direction of the magnetic field produced by a current carrying straight wire?

- Ans**
- ☒ 1. Parallel to the plane of the wire
 - ☒ 2. At an angle 45 ° to the plane of the wire
 - ☒ 3. Perpendicular to the plane of the wire
 - ☒ 4. At an angle 60 ° to the plane of the wire

Q.77 Given below is a statement followed by two possible reasons numbered I and II. Read the statement carefully and decide which of the two explain(s) the event/observation/information given in the statement.

Statement - Noise pollution is an invisible danger. It cannot be seen, but it is present nonetheless, both on land and under the sea. Noise pollution is considered to be any unwanted or disturbing sound that affects the health and well-being of humans and other organisms.

Reasons:

- I. Some of its major causes are vehicles, aircraft, industrial machines, loudspeakers, crackers, etc.
- II. When used at high volume, some other appliances also contribute to noise pollution, like television, transistor, radio, etc.

- Ans**
- ☒ 1. Only II is a possible reason.
 - ☒ 2. Neither I nor II is a possible reason.
 - ☒ 3. Only I is a possible reason.
 - ☒ 4.

Q.78 Who among the following players won the men's player of the year award in the Hockey India Awards 2023 that was held in New Delhi on 31 March 2024?

- Ans**
- ☒ 1. Hardik Singh
 - ☐ 2. Abhishek
 - ☐ 3. Manpreet Singh
 - ☐ 4. PR Sreejesh

Q.79 In a certain code language, 'CARD' is coded as '5193' and 'ROSE' is coded as '8612'. What is the code for 'R' in the given code language?

- Ans**
- ☐ 1. 8
 - ☐ 2. 9
 - ☐ 3. 5
 - ☒ 4. 1

Q.80 In $\triangle ABC$, $BD \perp AC$ at D and $\angle DBC = 54^\circ$. E is a point on BC such that $\angle CAE = 34^\circ$. What is the measure of $\angle AEB$?

- Ans**
- ☐ 1. 56°
 - ☒ 2. 70°
 - ☐ 3. 78°
 - ☐ 4. 80°

Q.81 Which of the following alcohols is used in cough syrups?

- Ans**
- ☒ 1. Ethanol
 - ☐ 2. Methanol
 - ☐ 3. Propanol
 - ☐ 4. Ethanoic acid

Q.82 Which of the following statements is NOT true?

- Ans**
- ☐ 1. The total energy before and after the transformation always remains constant.
 - ☐ 2. Energy can neither be created nor destroyed.
 - ☒ 3. The total energy before and after the transformation is not constant.
 - ☐ 4. Energy can only be transformed from one form to another.

Q.83 Which type of reproduction is seen in Spirogyra?

- Ans**
- ☐ 1. Vegetative propagation
 - ☐ 2. Budding
 - ☒ 3. Fragmentation
 - ☐ 4. Binary fission

Q.84 If a 3-digit number $42a$ is divisible by 9, then the value of digit 'a' is:

- Ans**
- ☐ 1. 9
 - ☐ 2. 1
 - ☐ 3. 6
 - ☒ 4. 3

Q.85 Match Pradhan Mantri Mudra Yojana Categories with the Loan Amount as updated in the Union Budget 2023-24 and select the correct answer.

List I (Mudra Loans Categories) List II (Loan Amount)
(1) Shishu (A). Upto ₹50,000
(2) Kishor (B). Above ₹50,000 and up to ₹5 lakh
(3) Tarun (C) Above ₹5 lakh and up to ₹10 lakh
(4) Tarun Plus (D). Above ₹10 lakh and up to ₹20 lakh

Codes:

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

Q.86 The greatest ratio out of 2 : 3, 5 : 4, 3 : 2 and 4 : 5 is:

- Ans
- ☐ 1. 2 : 3
 - ☐ 2. 5 : 4
 - ☐ 3. 4 : 5
 - ☒ 4. 3 : 2

Q.87 Due to a reduction of 6.25% in the price of sugar, a man can buy 1 kg more for ₹120. The reduced price per kg of sugar is:

- Ans
- ☒ 1. ₹7.5
 - ☐ 2. ₹7
 - ☐ 3. ₹8
 - ☐ 4. ₹6.5

Q.88 Select the correct option related to the function regulated by ovaries.

- Ans
- ☐ 1. Stimulates growth in all organs
 - ☒ 2. Menstrual cycle
 - ☐ 3. Stimulates pituitary glands
 - ☐ 4. Regulates metabolism

Q.89 If a person covers 90 km at a speed of 45 km/h and another distance of 150 km at a speed of 50 km/h, then his average speed for the whole journey is:

- Ans
- ☐ 1. 46 km/h
 - ☒ 2. 48 km/h
 - ☐ 3. 49 km/h
 - ☐ 4. 47 km/h

Q.90 Find the arithmetic mean of the given frequency distribution.

Marks	Frequency
50	3
28	4
85	6
40	7

- Ans**
- ☐ 1. 56.2
 - ☐ 2. 50.5
 - ☒ 3. 52.6
 - ☐ 4. 40.95

Q.91 By what per cent does the curved surface area of a cylinder decrease, if the radius is increased by 30% and the height is decreased by 30%?

- Ans**
- ☐ 1. 0%
 - ☐ 2. 30%
 - ☐ 3. 60%
 - ☒ 4. 9%

Q.92 Pure ghee costs ₹100 per kg. After adulterating it with vegetable oil costing ₹50 per kg, a shopkeeper sells the mixture at the rate of ₹96 per kg, thereby making a profit of 20%. In what ratio does he mix the two?

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

Q.93 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. FCG
 - ☐ 2. IFK
 - ☐ 3. QNS
 - ☐ 4. LIN

Q.94 Which of the following is the valency of carbon in ethene?

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

Q.95 A tin of biscuits weighs 1 kg 750 g. What is the total weight of 7 such tins?

- Ans**
- ☒ 1. 12.250 kg
 - ☐ 2. 12.350 kg
 - ☐ 3. 12.050 kg
 - ☐ 4. 12.150 kg

Q.96 The position(s) of how many letters will remain unchanged if each of the letters in the word DEFAULT is arranged in the English alphabetical order ?

- Ans**
- ✓ 1. 0
 - ✗ 2. 2
 - ✗ 3. 1
 - ✗ 4. 3

Q.97 In Bryophyllum, vegetative propagation takes place by:

- Ans**
- ✗ 1. pistil
 - ✗ 2. petal
 - ✗ 3. stamen
 - ✓ 4. buds produced in the notches along the leaf margin

Q.98 The contraction and relaxation of which of the following results in movement of the organ?

- Ans**
- ✗ 1. Cartilages
 - ✓ 2. Muscle cells
 - ✗ 3. Bones
 - ✗ 4. Nerve cells

Q.99 When we stretch a spring, the form of energy stored in the spring is _____.

- Ans**
- ✗ 1. electric energy
 - ✓ 2. potential energy
 - ✗ 3. gravitational energy
 - ✗ 4. kinetic energy

Q.100 Which of the following is a biodegradable substance?

- Ans**
- ✓ 1. Dead plant
 - ✗ 2. Glass
 - ✗ 3. Electric wire
 - ✗ 4. Plastic bag