



रेल भर्ती बोर्ड / RAILWAY RECRUITMENT BOARDS



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

Test Date	26/12/2024
Test Time	4:30 PM - 6:00 PM
Subject	RRB Technicians Grade III

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

1. Options shown in green color with a tick icon are correct.
2. Chosen option on the right of the question indicates the option selected by the candidate.

Section : RRB Technicians Grade III

Q.1 What type of plant tissue is classified as apical, lateral and intercalary?

- Ans
- ☒ 1. Simple permanent tissue
 - ☒ 2. Connective tissue
 - ☒ 3. Meristematic tissue
 - ☒ 4. Complex permanent tissue

Q.2 Select the INCORRECT statement.

- Ans
- ☒ 1. Warts are a protozoan disease.
 - ☒ 2. AIDS is caused by the HIV virus.
 - ☒ 3. Gonorrhea is a bacterial disease.
 - ☒ 4. Many diseases can be sexually transmitted.

Q.3 A man sold an article for ₹405 by giving a discount of $d\%$ on its marked price. If the marked price of the article is ₹540, then what is the value of d ?

- Ans
- ☒ 1. 12.5
 - ☒ 2. 20
 - ☒ 3. 12
 - ☒ 4. 25

Q.4 Which of the following actions are regulated by the medulla in the hind brain?

- Ans
- ☒ 1. Maintaining balance and posture
 - ☒ 2. Walking
 - ☒ 3. Riding a bicycle
 - ☒ 4. Salivation

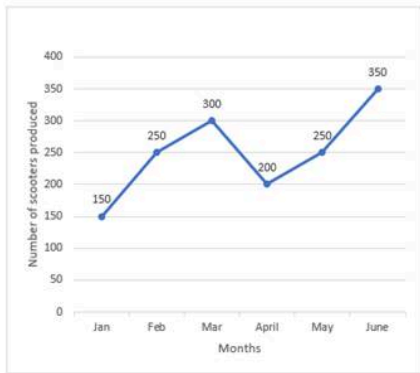
Q.5 Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster does not belong to that group?

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

- Ans**
- ☒ 1. QOL
 - ☒ 2. VTR
 - ☒ 3. MKH
 - ☒ 4. YWT

Q.6 Study the given graph and answer the question that follows.

The line graph shows the number of scooters produced in a factory during the first six months of a year.



What is the difference between the maximum and minimum production of scooters in a month?

- Ans**
- ☒ 1. 150
 - ☒ 2. 100
 - ☒ 3. 200
 - ☒ 4. 250

Q.7 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. NPK
 - ☒ 2. JLG
 - ☒ 3. HJF
 - ☒ 4. FHC

Q.8 Which of the following compounds is used in tincture iodine?

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

Q.9 The cost of 2 tables and 3 chairs is ₹540, while that of 2 tables and 1 chair is ₹470. What is the difference in the cost of 2 tables and 2 chairs?

- Ans**
- ☒ 1. ₹345
 - ☒ 2. ₹400
 - ☒ 3. ₹365
 - ☒ 4. ₹425

Q.10	If each vowel in the word FLOWING is changed to the letter immediately following it in the English alphabetical order and each consonant is changed to the letter immediately preceding it in the English alphabetical order, then how many vowels are there in the group of letters thus formed?
Ans	✗ 1. 2 ✗ 2. 0 ✗ 3. 3 ✓ 4. 1
Q.11	Refer to the given number and symbol series and answer the question that follows. Counting to be done from left to right only. (Left) & 3 Ω 2 & % 4 6 @ 8 S 7 Ƨ 9 # 1 * £ 1 + & @ 5 (Right) How many such symbols are there, each of which is immediately followed by a symbol and also immediately preceded by a symbol?
Ans	✓ 1. One ✗ 2. More than two ✗ 3. None ✗ 4. Two
Q.12	Which of the following metals is LEAST reactive towards dilute hydrochloric acid?
Ans	✗ 1. Al ✓ 2. Fe ✗ 3. Zn ✗ 4. Mg
Q.13	Which of the following factors do NOT affect the resistance of a conductor (at constant temperature): (i) Area of cross-section of the conductor (ii) Current flowing through the conductor (iii)Length of the conductor
Ans	✗ 1. Only (iii) ✗ 2. Both (i) and (ii) ✗ 3. Both (i) and (iii) ✓ 4. Only (ii)
Q.14	If the price of tea is increased by 20%, then by what percentage must a householder reduce her consumption of tea so as to leave her expenditure on tea unchanged?
Ans	✗ 1. 20% ✗ 2. 25% ✗ 3. $33\frac{1}{3}\%$ ✓ 4. $16\frac{2}{3}\%$
Q.15	In a certain code language, ‘EVIL’ is coded as ‘6824’ and ‘BONE’ is coded as ‘8753’. What is the code for ‘E’ in the given code language?
Ans	✓ 1. 8 ✗ 2. 6 ✗ 3. 3 ✗ 4. 7

Q.16 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.)
(4, 12, 24)
(7, 21, 42)

- Ans**
- ☒ 1. (9, 36, 54)
 - ☒ 2. (9, 27, 54)
 - ☒ 3. (9, 27, 52)
 - ☒ 4. (7, 27, 54)

Q.17 Which of the following statements related to the law of conservation of energy is true?

- Ans**
- ☒ 1. Energy can be created or destroyed.
 - ☒ 2. The total energy before and after a transformation process are different.
 - ☒ 3. Energy cannot be converted from one form to another.
 - ☒ 4. The law of conservation of energy is valid in all situations and for all kinds of transformations.

Q.18 Select the correct option related to the function of villi in the small intestine.

- Ans**
- ☒ 1. Helps in excretion
 - ☒ 2. Increases absorptive surface area
 - ☒ 3. Secretion of minerals
 - ☒ 4. Protection from acid

Q.19 Which of the following ion concentrations is measured by the pH scale?

- Ans**
- ☒ 1. H^+ ion concentration
 - ☒ 2. F^- ion concentration
 - ☒ 3. Cl^- ion concentration
 - ☒ 4. Na^+ ion concentration

Q.20 A bus accelerates uniformly from 12 m s^{-1} to 30 m s^{-1} in 30 s. Calculate the distance covered by the bus in that time.

- Ans**
- ☒ 1. 1900 m
 - ☒ 2. 400 m
 - ☒ 3. 630 m
 - ☒ 4. 175 m

Q.21 If a 4-digit number 5k21 is divisible by 9, then the value of digit 'k' is:

- Ans**
- ☒ 1. 9
 - ☒ 2. 1
 - ☒ 3. 3
 - ☒ 4. 0

Q.22 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 tables are knives.

All knives are paper.

Some papers are blue.

Conclusions:

(I) Some blues are tables.

(II) Some papers are tables.

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

Q.23 The LCM of the numbers 2.5 and 0.175 is:

- Ans**
- ☒ 1. 1.75
 - ☒ 2. 0.0175
 - ☒ 3. 17.5
 - ☒ 4. 175

Q.24 What will come in the place of '?' in the following equation, if '+' and '+' are interchanged and '×' and '-' are interchanged?

$$63 + 9 \times 6 + 13 - 4 = ?$$

- Ans**
- ☒ 1. 51
 - ☒ 2. 53
 - ☒ 3. 55
 - ☒ 4. 48

Q.25 Select the triad which follows the same pattern as that followed by the two triads given below. Both triads follow the same pattern.

WEST - EWST - TSEW

POLE - OPLE - ELOP

- Ans**
- ☒ 1. VIEW - IVEW - WEIV
 - ☒ 2. FANG - AFNG - ANGF
 - ☒ 3. GROW - GORW - WORG
 - ☒ 4. ROAD - ORAD - DOAR

Q.26 The compound interest on ₹2,500 after 2 years, at a rate of 6% per annum, compounded annually, will be:

- Ans**
- ☒ 1. ₹318
 - ☒ 2. ₹309
 - ☒ 3. ₹320
 - ☒ 4. ₹322

Q.27 The total surface area of a solid hemisphere is 166.32 sq cm, find its curved surface area?

- Ans**
- ☐ 1. 55.44 sq cm
 - ☒ 2. 110.88 sq cm
 - ☐ 3. 196.96 sq cm
 - ☐ 4. 221.76 sq cm

Q.28 When water enters into the guard cells, the guard cells _____ and the stomatal pore _____.

- Ans**
- ☐ 1. swell; shrinks
 - ☐ 2. shrink; opens
 - ☐ 3. shrink; closes
 - ☒ 4. swell; opens

Q.29 What would be the name of hydrocarbon having three carbon chain with a double bond?

- Ans**
- ☐ 1. Propane
 - ☐ 2. Propanone
 - ☐ 3. Propyne
 - ☒ 4. Propene

Q.30 What was the theme of the 'GST & Customs Pavilion' inaugurated at the India International Trade Fair (IITF) 2024 in November 2024?

- Ans**
- ☐ 1. Supporting trade, facilitating economy
 - ☐ 2. Facilitating trade, strengthening economy
 - ☐ 3. Facilitating economy, fostering trade
 - ☒ 4. Facilitating trade, fostering economy

Q.31 Ansh and Tanvi can do a piece of work in 24 days and 40 days, respectively. They started the work, and after 8 days, Shubham, who can complete the same work in 20 days alone, joined them. In how many days can the whole work be completed?

- Ans**
- ☐ 1. 16 days
 - ☐ 2. 15 days
 - ☒ 3. 12 days
 - ☐ 4. 20 days

Q.32 Which of the following is a suspension?

- Ans**
- ☐ 1. Gases dispersed in liquids
 - ☐ 2. Gases dispersed in solids
 - ☐ 3. Solids dispersed in solids
 - ☒ 4. Solids dispersed in liquids



Q.33 Shreya starts from point A and drives 4 km towards the East. She takes three simultaneous left turns and drives 2 km, 2 km and 3 km, respectively. She then takes a right turn and drives 1 km. She takes a final right turn and drives 1 km to reach point B.

How far (shortest distance) and towards which direction should she drive to reach Point A again? (All turns are 90 degrees turns only unless specified.)

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

Q.34 In a certain code language,

$P + Q$ means 'P is the father of Q',

$P - Q$ means 'P is the son of Q',

$P \times Q$ means 'P is the wife of Q' and

$P \div Q$ means 'P is the brother of Q'.

Based on the above, how is C related to E if ' $A - B \times C \div D + E$ '?

- Ans**
- ☒ 1. Father's brother
 - ☐ 2. Son
 - ☐ 3. Father's father
 - ☐ 4. Father

Q.35 If + means $\times$, $\times$ means $\div$, $\div$ means $+$, and $\div$ means $+$, then what will come in place of the question mark (?) in the following equation?

$65 \times 13 - 7 \div 24 + 9 = ?$

- Ans**
- ☐ 1. 46
 - ☐ 2. 48
 - ☒ 3. 50
 - ☐ 4. 40

Q.36 In November 2024, the Indian Computer Emergency Response Team (CERT-In) signed a Memorandum of Understanding (MoU) with which of the following international cybersecurity companies, specializing in networking and security, to launch joint initiatives aimed at advancing cyber awareness and cybersecurity skills in academia?

- Ans**
- ☒ 1. Fortinet
 - ☐ 2. Palo Alto Networks
 - ☐ 3. Cisco
 - ☐ 4. CrowdStrike

Q.37 Which team won the Khelo India Winter Games 2024 title, winning ten gold, five silver and six bronze?

- Ans**
- ☐ 1. Ladakh
 - ☐ 2. Maharashtra
 - ☐ 3. Karnataka
 - ☒ 4. The Indian Army

Q.38 When a white light falls on a glass prism, _____ colour undergoes maximum deviation.

- Ans**
- ☐ 1. Red
 - ☐ 2. Blue
 - ☐ 3. Yellow
 - ☒ 4. Violet

Q.39 When hydrochloric acid (HCl) reacts with sodium hydroxide (NaOH), which of the following products is formed?

- Ans**
- ☐ 1. Only water
 - ☐ 2. Only salt
 - ☒ 3. Water and salt
 - ☐ 4. Carbon dioxide and water

Q.40 Which of the following substances can act as a source of OH^- ions when dissolved in water?

- Ans**
- ☐ 1. Nitric acid
 - ☐ 2. Carbon dioxide
 - ☐ 3. Hydrochloric acid
 - ☒ 4. Sodium hydroxide

Q.41 The HCF of two numbers is 7 and their LCM is 434. If one of the numbers is 14, the other number is:

- Ans**
- ☐ 1. 146
 - ☐ 2. 48
 - ☒ 3. 217
 - ☐ 4. 52

Q.42 Which edition of Rashtriya Poshan Maah was celebrated nationwide in September 2024, promoted by Ministry of Women and Child Development focusing on advancing nutritional outcomes for children, adolescent girls, pregnant women and lactating mothers holistically?

- Ans**
- ☐ 1. 5th
 - ☐ 2. 6th
 - ☐ 3. 8th
 - ☒ 4. 7th

Q.43 Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?

GJE, ILG, KNI, MPK, ?

- Ans**
- ☐ 1. RMO
 - ☒ 2. ORM
 - ☐ 3. ROM
 - ☐ 4. OMR

Q.44 A and B complete a work in 2 days. If A alone can do it in 4 days then, B alone can do 20-times of the same work in _____(days).

- Ans**
- ☐ 1. 5
 - ☐ 2. 4
 - ☒ 3. 80
 - ☐ 4. 81



Q.45 The ratio of milk to honey in 20 litres of a mixture is 3 : 2. The quantity of milk in the mixture is:

- Ans**
- ☐ 1. 10 litres
 - ☐ 2. 6 litres
 - ☐ 3. 8 litres
 - ☒ 4. 12 litres

Q.46 Simplify the following expression:

$$\frac{4.35 \times 4.35 - 2.67 \times 2.67}{1.68}$$

- Ans**
- ☒ 1. 7.02
 - ☐ 2. 7.04
 - ☐ 3. 6.99
 - ☐ 4. 6.96

Q.47 A bus travels two-fifth of the distance at a speed of 50 km/h and the remaining distance at a speed of 60 km/h. What is the average speed of the bus for the whole journey?

- Ans**
- ☐ 1. $54\frac{7}{9}$ km/h
 - ☐ 2. $56\frac{8}{9}$ km/h
 - ☐ 3. $57\frac{2}{9}$ km/h
 - ☒ 4. $55\frac{5}{9}$ km/h

Q.48 Which of the following jointly organised the 'Kaveri Meets Ganga festival series', in November 2024?

- (1) Sangeet Natak Akademi
- (2) Kalakshetra
- (3) Centre for Cultural Resources and Training (CCRT)

- Ans**
- ☐ 1. Only 2 and 3
 - ☐ 2. Only 1 and 3
 - ☐ 3. Only 1 and 2
 - ☒ 4. 1, 2 and 3

Q.49 If $144 : k :: k : 36$, and $k > 0$, find the value of $k - 1$.

- Ans**
- ☐ 1. 72
 - ☐ 2. 27
 - ☐ 3. 26
 - ☒ 4. 71

Q.50 Bharat borrowed a sum of ₹10,000 at a certain rate of simple interest for 2 years. If he paid an interest of ₹2,000 at the end of the period, then find the rate of interest per annum.

- Ans**
- ☐ 1. 20%
 - ☒ 2. 10%
 - ☐ 3. 25%
 - ☐ 4. 15%

Q.51 Which of the following statements is/are correct related to respiration?

- (i) In alveoli, exchange of gases takes place.
- (ii) The walls of alveoli contain an extensive network of blood vessel.
- (iii) In human beings, the respiratory pigments is haemoglobin.

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

Q.52 How many seats did the Bharatiya Janata Party win in Lok Sabha election 2024?

Ans ☒ 1. 240
☒ 2. 37
☒ 3. 140
☒ 4. 99

Q.53 VRXT is related to QMSO in a certain way based on the English alphabetical order. In the same way, SOUQ is related to NJPL. To which of the following options is PLRN related, following the same logic?

Ans ☒ 1. KGIM
☒ 2. GKMI
☒ 3. KGMI
☒ 4. GKIM

Q.54 Cells of the meristematic tissue are very active, but they lack:

Ans ☒ 1. prominent nuclei
☒ 2. dense cytoplasm
☒ 3. vacuoles
☒ 4. thin cellulose walls

Q.55 Seven boxes, A, B, E, F, L, M and P, are kept one over the other but not necessarily in the same order. Only three boxes are kept below L. Only two boxes are kept between L and F. Only A is kept above B. M is kept at some place below P and at some place above E. Which box is kept at the second position from the bottom?

Ans ☒ 1. E
☒ 2. F
☒ 3. M
☒ 4. L

Q.56 Which of the following is NOT an example of oxidation reaction?

Ans ☒ 1. Formation of zinc from zinc oxide
☒ 2. Corrosion
☒ 3. Formation of magnesium oxide from magnesium
☒ 4. Rancidity of oils

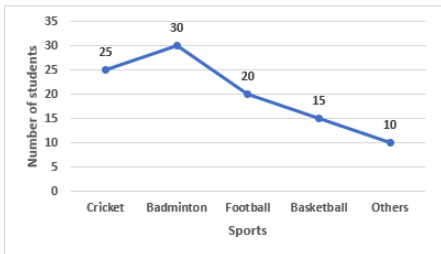


Q.57 In which of the following modes of asexual reproduction if an individual is cut or broken into many pieces, many of these pieces grow into separate individuals?

- Ans**
- ✓ 1. regeneration
 - ✗ 2. fission
 - ✗ 3. budding
 - ✗ 4. spore formation

Q.58 Study the given graph and answer the question that follows.

The graph shows the number of students who play Cricket, Badminton, Football, Basketball and other sports (Others).



What percentage of students play cricket as compared to the total number of students who play any of the sports?

- Ans**
- ✗ 1. 45%
 - ✓ 2. 25%
 - ✗ 3. 35%
 - ✗ 4. 15%

Q.59 If an object on the surface of the moon weighs 3 N, the weight of the same object on surface of the Earth is _____.

- Ans**
- ✗ 1. 12 N
 - ✓ 2. 18 N
 - ✗ 3. 24 N
 - ✗ 4. 3 N

Q.60 Which organization released the SDG India Index 2023-24, the fourth edition for measuring progress on the Sustainable Development Goals?

- Ans**
- ✗ 1. Reserve Bank of India (RBI)
 - ✗ 2. Indian Statistical Institute
 - ✓ 3. NITI Aayog
 - ✗ 4. Ministry of Environment

Q.61 The average of 5 consecutive numbers , in increasing order is n. If the next three numbers are also included, the average will:

- Ans**
- ✗ 1. increase by 1
 - ✗ 2. remain the same
 - ✗ 3. increase by 2
 - ✓ 4. increase by 1.5

Q.62 The LCM of the numbers 36, 54, 72 and 96 is:

- Ans**
- ✗ 1. 1064
 - ✗ 2. 964
 - ✓ 3. 864
 - ✗ 4. 764

Q.63 The age of a father is twice the sum of the ages of his 3 children. After 15 years, his age will be equal to the sum of the ages of his children. How old will the father be 15 years later?

- Ans**
- ☒ 1. 75 years
 - ☐ 2. 90 years
 - ☐ 3. 95 years
 - ☐ 4. 85 years

Q.64 Which of the following does NOT belong to the category of asexual reproduction?

- Ans**
- ☐ 1. Vegetative propagation
 - ☒ 2. Fertilisation
 - ☐ 3. Regeneration
 - ☐ 4. Spore formation

Q.65 The rate of doing work can be defined as _____.

- Ans**
- ☐ 1. work
 - ☒ 2. power
 - ☐ 3. energy
 - ☐ 4. force

Q.66 Which of the following statements is true regarding a suspension?

- Ans**
- ☐ 1. Particles are smaller than those in a solution.
 - ☐ 2. Particles cannot be separated by filtration.
 - ☐ 3. Particles do not scatter light.
 - ☒ 4. Particles settle down after some time.

Q.67 A concave mirror has a radius of curvature of 4.00 m. If any object is located at 2.00 m from this mirror, find the position of the image.

- Ans**
- ☐ 1. Between pole and focus point
 - ☒ 2. Infinity
 - ☐ 3. At centre of curvature
 - ☐ 4. Zero

Q.68 Which Indian achieved a significant milestone by winning his first Formula 2 Sprint Race at the Hungarian Grand Prix in July 2024?

- Ans**
- ☐ 1. Jehan Daruvala
 - ☒ 2. Kush Maini
 - ☐ 3. Yash Aradhya
 - ☐ 4. Arjun Maini

Q.69 What is the full form of CNG?

- Ans**
- ☐ 1. Combustible Nitrogen Gas
 - ☒ 2. Compressed Natural Gas
 - ☐ 3. Chemical Natural Gas
 - ☐ 4. Carbonated Natural Gas

Q.70 What is the term used to describe a solution that cannot dissolve any more solute at a given temperature?

- Ans**
- ☐ 1. Heterogeneous solution
 - ☐ 2. Unsaturated solution
 - ☐ 3. Dilute solution
 - ☒ 4. Saturated solution

Q.71 In which state of matter does evaporation occur?

- Ans**
- ☐ 1. Plasma only
 - ☐ 2. Both plasma and liquid
 - ☐ 3. Solid only
 - ☒ 4. Liquid only

Q.72 Which of the following statements is correct about soaps and detergents?

- Ans**
- ☐ 1. Hydrophilic ends interact with hydrocarbons.
 - ☐ 2. Hydrophobic interacts with water molecules.
 - ☐ 3. Soap molecules have no ends.
 - ☒ 4. Soaps molecules have two ends – one is hydrophilic and the other end is hydrophobic.

Q.73 Which of the following is a Pythagorean triplet?

- Ans**
- ☐ 1. (6, 9, 11)
 - ☒ 2. (8, 15, 17)
 - ☐ 3. (2, 3, 5)
 - ☐ 4. (5, 7, 9)

Q.74 A force of 20 N acts on a body in a direction opposite to the displacement of the body. If under the action of this force the displacement is 2m, the work done will be:

- Ans**
- ☐ 1. 0 J
 - ☐ 2. - 20 J
 - ☒ 3. - 40 J
 - ☐ 4. 40 J

Q.75 In a certain code language, 'here we are' is written as 'aj tm yg' and 'are we done' is written as 'gm aj tm'. How is 'done' written in the given language?

- Ans**
- ☐ 1. yg
 - ☐ 2. tm
 - ☐ 3. aj
 - ☒ 4. gm

Q.76 Which of the following act(s) as a site for protein synthesis?

- Ans**
- ☐ 1. Cell membrane
 - ☒ 2. Ribosomes
 - ☐ 3. Plastid
 - ☐ 4. Vacuole



Q.77 PQRS is a trapezium in which $QR \parallel PS$ and $PR = RS$. If $\angle PQR = 96^\circ$ and $\angle QPR = 36^\circ$, then what is the measure of $\angle PRS$?

Ans ☒ 1. 80°
☒ 2. 70°
☒ 3. 84°
☒ 4. 75°

Q.78 David owns a plot worth ₹10,000. He sells it to Rodney at 10% profit. Rodney sells the plot back to David at a loss of 10%. In the whole transaction, Rodney realises _____.

Ans ☒ 1. no profit no loss
☒ 2. loss of ₹1,000
☒ 3. profit of ₹2,000
☒ 4. loss of ₹1,100

Q.79 The weights (in kg) of 9 members of a school cricket team are 50, 63, x, 62, 64, 48, 51, 55, 48. If the mean weight is 57 kg, then the value of x is _____.

Ans ☒ 1. 64
☒ 2. 72
☒ 3. 57
☒ 4. 63

Q.80 In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. Which numbers should replace X and Y so that the pattern followed by the two numbers on the left side of :: is the same as that on the right side of :: ?

(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

X : 58 :: 117 : Y

Ans ☒ 1. X = 94, Y = 81
☒ 2. X = 92, Y = 88
☒ 3. X = 102, Y = 95
☒ 4. X = 109, Y = 99

Q.81 A book is lying on a table and Rahul moves the book in the direction of the force for some distance D. The work done by the force is:

Ans ☒ 1. positive
☒ 2. negative
☒ 3. undetermined
☒ 4. zero

Q.82 The remarkable journey of Indian cinema began in 1913 with the release of which of the following first indigenous films?

Ans ☒ 1. Keechaka Vadham
☒ 2. Raja Harishchandra
☒ 3. Mohini Bhasmasur
☒ 4. Lanka Dahan

Q.83 25% of 25% is equal to:

- Ans**
- ☐ 1. 0.625
 - ☐ 2. 6.25
 - ☐ 3. 0.00625
 - ☒ 4. 0.0625

Q.84 Which of the following is an example of a unicellular organism?

- Ans**
- ☐ 1. House fly
 - ☒ 2. Amoeba
 - ☐ 3. Lizard
 - ☐ 4. Hydra

Q.85 If the radius of a sphere is increased by 20%, then the new volume will become _____ of the original volume.

- Ans**
- ☐ 1. 20%
 - ☐ 2. 120%
 - ☒ 3. 172.8%
 - ☐ 4. 72.8%

Q.86 A current of 2A flows through a wire when the two ends of the wire are maintained at a potential difference of 4 V. The resistance of the wire will be:

- Ans**
- ☐ 1. 4 Ω
 - ☐ 2. $\frac{1}{2} \Omega$
 - ☐ 3. 8 Ω
 - ☒ 4. 2 Ω

Q.87 What is the nature of the magnetic field inside a current-carrying solenoid?

- Ans**
- ☐ 1. Weak uniform magnetic field
 - ☒ 2. Strong uniform magnetic field
 - ☐ 3. Strong non-uniform magnetic field
 - ☐ 4. Weak non-uniform magnetic field

Q.88 Given below is a cause followed by possible effects numbered I and II. Read the cause carefully and decide which of the two can be a/the possible effect(s).

Cause - Inflation is an increase in the general price level of goods and services in an economy. More jobs and higher wages increase household incomes and lead to a rise in consumer spending, further increasing aggregate demand and the scope for firms to increase the prices of their goods and services. When this happens across a large number of businesses and sectors, this leads to an increase in inflation.

Effect I - In an inflationary environment, unevenly rising prices inevitably reduce the purchasing power of some consumers.

Effect II - Those with wealth tend to inherit more and as they have managed to put aside money and invest surpluses, they will be least damaged by any rampant inflation in the economy.

- Ans**
- ☐ 1. Only II is a possible effect.
 - ☐ 2. Neither I nor II are possible effects.
 - ☒ 3. Only I is a possible effect.
 - ☐ 4. Both I and II are possible effects.



Q.89 A, B, E, F, P, Q and R are sitting around a circular table facing the centre. Only two people sit between B and P when counted from the right of B. F sits second to the left of B. Q sits to the immediate left of A. E is not an immediate neighbour of B. Who sits third to the right of R?

- Ans**
- ☒ 1. E
 - ☒ 2. A
 - ☒ 3. Q
 - ☒ 4. P

Q.90 Which of the following options should come in place of the question mark (?) in the given series to make it logically complete?
24, 31, 45, 66, 94, ?

- Ans**
- ☒ 1. 129
 - ☒ 2. 119
 - ☒ 3. 134
 - ☒ 4. 110

Q.91 Which of the following aircrafts was NOT a part of the Indian Air Force's participation in Exercise Cobra Warrior 2023?

- Ans**
- ☒ 1. C-17 Globemaster III
 - ☒ 2. F-16 Fighting Falcon
 - ☒ 3. Mirage 2000
 - ☒ 4. IL-78 Mid Air Refueller

Q.92 A motorcycle starting from rest attains a velocity of 30 m s^{-1} in 10 s. Assuming that the acceleration is uniform, find the distance travelled by the motorcycle to attain this velocity.

- Ans**
- ☒ 1. 300 m
 - ☒ 2. 250 m
 - ☒ 3. 150 m
 - ☒ 4. 270 m

Q.93 Which of the following options should come in place of the question mark (?) in the given series based on the English alphabetical order?
MOK, NPL, OQM, PRN, ?

- Ans**
- ☒ 1. QOS
 - ☒ 2. QSO
 - ☒ 3. SOQ
 - ☒ 4. SQO

Q.94 Which of the following statements is/are correct related to the eco-system?

- (i) Ozone is a molecule formed by three atoms of oxygen.
- (ii) Oxygen (O_2) is essential for all aerobic forms of life.
- (iii) Ozone is non-poisonous.

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

Q.95 A positive and negative sign in the magnification indicates that the images are:

- Ans**
- ☐ 1. both virtual in nature
 - ☐ 2. both real in nature
 - ☐ 3. real and virtual, respectively
 - ☒ 4. virtual and real, respectively

Q.96 Find the value of $2\sec^2 A + 6\operatorname{cosec}^2 A - 2\tan^2 A - 6\cot^2 A$.

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

Q.97 Seven people, A, B, C, L, X, Y and Z are sitting in a row, facing north. No one sits to the left of B. Only four people sit between B and Y. Only three people sit to the right of C. A sits to the immediate left of L. Z is not an immediate neighbour of C.

Who sits at the rightmost end of the row?

- Ans**
- ☐ 1. X
 - ☒ 2. Z
 - ☐ 3. L
 - ☐ 4. Y

Q.98 In which year were cells first discovered by Robert Hooke?

- Ans**
- ☒ 1. 1665
 - ☐ 2. 1670
 - ☐ 3. 1667
 - ☐ 4. 1664

Q.99 After the process of fertilisation which part of the flower undergoes transformation to develop into a seed?

- Ans**
- ☐ 1. Stigma
 - ☒ 2. Ovule
 - ☐ 3. Style
 - ☐ 4. Ovary

Q.100 The position(s) of how many letters will remain unchanged if each of the letters in the word DISPLAY is arranged in the English alphabetical order ?

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