RRB ALP CBT 2 Previous Year Question Papers 2025 Shift 2 6th May

Section : PART-A

Q.1 The potential energy of an object is equivalent to the _____.

1. energy lost

2. energy transferred ✅

3. change in velocity

4. change in speed

Q.2 In a certain code language, 'WIDE' is coded as '8694' and 'INKS' is coded as '3917'. What is the code for 'I' in the given code language?

1. 6

2. 7

3. 3

4. 9✅

Q.3 Which of the following terms is used to describe the pollutants that originate from identifiable sources, such as factories or vehicles?

1. Radicle Pollution

2. Non-point Source Pollution

3. Random Pollution

4. Point Source Pollution✅

Q.4 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:

I. All books are pencils.

II. All pencils are cardboards.

III. All cardboards are notebooks.

Conclusions:

I. Some notebooks are pencils.

II. Some cardboards are books.

III. Some notebooks are books.

1. Only conclusions II and III follow.

2. All conclusions I, II and III follow.✅

3. Only conclusions I and III follow.

4. Only conclusions I and II follow.

Q.5 Which term is used to describe the closeness of the measured value to the standard or

true value?

1. Approximate

2. Precision

3. Accuracy✅

4. Mean

Q.6 The marked price of an article was ₹27,500. The shopkeeper gave two successive discounts; the first discount was 20%, and the second was at a rate of 30% of the first discount. What is the selling price (in ₹) of the article?

1. 20,086

2. 26,080

3. 20,860

4. 20,680✅

Q.7 The two sides CB and BA of triangle ABC are produced to CE and BD, respectively, in such a way that ∠DAC = 110° and ∠ABE = 130°. Which of the following options is true?

1. AC <AB < BC✅

2. BC <AC < AB

3. BC <AB < AC

4. AB <AC < BC

Q.8 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 pair)

1. DY – AG

2. BW – YE

3. QL – NT

4. KF – HM✅

Q.9 In a certain code language, 'BOAT' is coded as '8654' and 'AIDS' is coded as '3517'. What is the code for 'A' in the given code language?

1. 5✅

2. 6

3. 3

4. 8

Q.10 Which of the following tools is commonly used to support the 'Standardize' step in the 5S methodology?

1. Cleaning supplies

2. Floor markings

3. Job cycle charts✅

4. Labels and signs

Q.11 What is the kinetic energy possessed by an object having mass 25 kg and moving with a uniform velocity of 2 m s^{-1}?

1. 120 J

2. 80 J

3. 100 J

4. 50 J✅

Q.12 What should come in place of the question mark (?) in the given series? WU5, SQ7, NL11, ?

1. HF13✅

2. HE15

3. GE17

4. HF17

Q.13 The speed of a bus is 6 metres/second. The distance (in kilometres) travelled by the bus in 8 hours and 20 minutes is:

1. 184

2. 180✅

3. 185

4. 175

Q.14 Which of the following is the correct statement of Ohm's Law?

1. The potential difference across the ends of a conductor is directly proportional to the current flowing through it.✅

2. The potential difference across the ends of a conductor is inversely proportional to the current flowing through it.

3. If the potential difference across the two ends of a conductor is 1 V and the current through it is 1A, then the resistance of the conductor is 2Ω.

4. Current through a resistor is directly proportional to its resistance.

Q.15 Which of the following is NOT correct?

1. A person jogging in the park is not an example of uniform circular motion.

2. The motion of satellite around Earth in a circular orbit is uniform circular motion.

3. The distance-time graph of an object moving with uniform speed is not a straight line.✅

4. An object moving with a constant velocity represents uniform motion.

Q.16 Study the given table carefully and answer the question that follows.

	Number of students who	
	Appeared for the exam	Passed the exam
Class IX	104	89
Class X	63	47

What was the total number of students who failed the exam from classes IX and X?

1. 33

2. 28

3. 21

4. 31✅

Q.17 Which element is used in thermometers?

1. Bromine

2. Lead

3. Mercury✅

4. Gallium

Q.18 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.)

1. EKJR✅

2. VBZI

3. IOMV

4. GMKT

Q.19 Given below are two sets of numbers. Both the sets are formed using the same mathematical equations or follow a common pattern. Which of the given options follows the same set of mathematical equations or patterns as the sets given in the question?

4 – 9 – 25 – 64 – 169; 16 – 49 – 121 – 324 – 841

1. 16 – 36 – 64 – 100 – 144

2. 64 – 225 – 529 – 1444 – 3721✅

3. 4 – 16 – 36 – 64 – 100

4. 64 – 100 – 144 – 196 – 256

Q.20 The thickness of a thread is measured by a student using a microscope of magnification 100. After making 30 observations, he finds the average width of the thread is 5.7 mm. What is the estimated thickness of the thread?

1. 171 mm

2. 0.057 mm✅

3. 0.09 mm

4. 0.57 mm

Q.21 A refrigerator seller offers a discount of 10% on its listed price of ₹57,500 and still earns a profit of 15%. The cost price of the refrigerator is:

1. ₹42,000

2. ₹45,000✅

3. ₹48,000

4. ₹40,000

Q.22 Which of the following actions involves scientific work?

1. Holding a large load on one's head while standing motionless

2. Watching a film

3. Climbing up the stairs✅

4. Spending time conversing with friends

Q.23 Which of the following features is unique to Telegram compared to WhatsApp and Facebook Messenger?

1. Integration with Facebook for seamless sharing

2. Ability to create channels for broadcasting messages to large audiences✅

3. End-to-end encryption for all messages

4. Voice and video calling capabilities

Q.24 What is the primary purpose of netiquette in online communication?

1. To improve typing speed

2. To ensure polite and respectful interactions✅

3. To increase the number of followers on social media

4. To enhance internet connection speed

Q.25 When reporting a fire in an emergency, what is the most critical information to provide to emergency services?

1. The likely cause of the fire and the building owner's name

2. The weather conditions at the time of the fire

3. The colour of the smoke and the direction it is moving

4. How the fire started and if someone is injured or missing✅

Q.26 If the length, the breadth, and the height of a cuboid are 5 m, 2 m, and 50 cm, respectively, then find its volume.

1. 5 m3✅

2. 500 m3

3. 20 m3

4. 50 m3

Q.27 Which of the following is the primary reason for adopting scientifically designed methods for safely disposing of toxic waste from automobiles?

1. To improve vehicle lifespan by minimising mechanical wear

2. To reduce fuel consumption and improve overall efficiency

3. To protect human health from harmful fumes and dust in the air✅

4. To increase vehicle performance by optimising engine efficiency

Q.28 How does retrofitting an old building with energy-efficient windows impact energy consumption?

1. It causes a rise in indoor temperatures.

2. It decreases the building's heating and cooling costs.✅

3. It has no effect on energy consumption.

4. It increases the need for artificial lighting.

Q.29 Which of the following statements is correct?

1. Plastic and wood allow heat to pass through them easily.

2. All metals are poor conductors of heat.

3. Dry air is a good conductor of heat.

4. Copper and aluminium are good conductors of heat.✅

Q.30 In an electrical circuit, 'n' number of 1 Ω resistors are connected in parallel. When one of the resistors is eliminated, the overall resistance of the circuit is _____.

1. Zero
2. $\frac{1}{n^2}$
3. $\frac{1}{(n-1)}$
4. $\frac{1}{n}$

Ans: 3 ✅

Q.31 What is the SI unit for solid angle?

1. Radian

2. Metre

3. Steradian✅

4. Candela

Q.32 T-Square is used to _____ in engineering drawings.

1. transfer dimensions and dividing lines into a number of equal parts

2. draw curved lines on drawing sheets

3. draw horizontal lines, parallel lines and to guide/hold the setsquares✅

4. support the drawing paper/tracing paper for making drawings

Q.33

By how much is 60% of 50 greater than of 35?

Ans 1. 4

2. 1

3. 3

4. 2✅

Q.34 Which is the least number that must be subtracted from 5563 to make it exactly divisible by 18?

1. 7

2. 3

3. 5

4. 1✅

Q.35 If 'A' stands for '÷', 'B' stands for '×', 'C' stands for '+' and 'D' stands for '–', then what will come in place of the question mark (?) in the following equation?

47 D 25 A 5 C 2 B 9 = ?

1. 60✅

2. 62

3. 56

4. 58

Q.36 Pipes A and B can fill a rectangular tank in 40 minutes and 120 minutes, respectively. Pipe C can empty the completely filled same tank in 240 minutes. If pipes A, B and C are opened at the same time, then how many minutes will it take to fill the tank?

1. $34\frac{2}{8}$
2. $32\frac{2}{7}$
3. $34\frac{2}{7}$
4. $34\frac{3}{7}$

Ans: 3✅

Q.37 The weights (in kg) of 20 students of a class have been recorded as 35, 42, 56, 44, 55, 44, 36, 44, 49, 48, 55, 35, 44, 47, 49, 48, 56, 44, 37 and 35. The modal weight (in kg) of the class is:

1. 44✅
2. 37
3. 45
4. 47

Q.38

If $x+y+z=0$, then find the value of $\frac{x^2}{2yz}+\frac{y^2}{2xz}+\frac{z^2}{2xy}$.

1. 2

Ans: 4 ✅

Q.39 A can do a work in 14 hours. B can do the same work in 21 hours. A started working alone. After how many hours should B join A so that the whole work is completed in 10 hours?

1. 3.5

2. 4 ✅

3. 4.5

4. 3

Q.40 If an electric load draws a current of 2 A for 1 second, then calculate the number of electrons (with charge 1.6 × 10-19 C) passing through the load.

1. 0.25 × 1020

2. 1.25 × 1019✅

3. 0.25 × 1019

4. 1.25 × 1020

Q.41 Two sets of numbers are given below. In each set of numbers, certain mathematical operation(s) on the first number results in the second number. Similarly, certain mathematical operation(s) on the second number results in the third number and so on. Which of the given options follows the same set of operations as in the given sets? (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

988 – 494 – 444 – 534; 894 – 447 – 397 – 487

1. 226 – 113 – 144 – 268

2. 138 – 69 – 14 – 98

3. 682 – 341 – 291 – 381✅

4. 586 – 293 – 244 – 328

Q.42 Which of the following is generally the temperature range in a laboratory thermometer?

1. –10°C to 150°C

2. 35°C to 42°C

3. –10°C to 110°C✅

4. –100°C to 130°C

Q.43 Under which Section of the Factories Act, of 1948, is the employment of women and children near cotton openers prohibited?

1. Section 27✅

2. Section 25

3. Section 21

4. Section 29

Q.44 Which of the following letter-number clusters will replace the question mark (?) in the given series to make it logically complete? AD8, FI16, KN24, ?

1. PS32✅

2. OS32

3. PS35

4. OR35

Q.45 Why does a combination of two thin blankets keep you warmer in the winter than a single thick blanket?

1. Two thin blankets generate more heat than one thick blanket.

2. Two thin blankets allow more heat to escape, keeping you warmer.

3. Two blankets create an additional insulating layer of air, reducing heat loss.✅

4. Two thin blankets absorb more heat from the surroundings than one thick blanket.

Q.46 What is the ratio of the areas of two successive format sheet sizes created by either halving along the length or doubling along the width?

1. 2 : 1

2. 4 : 1

3. 1 : 2✅

4. 1 : 4

Q.47 What is the first step to take in case of a power failure in a workshop?

1. Panic and leave the premises immediately

2. Continue working as usual

3. Check if emergency lighting and backup power are functional✅

4. Ignore the situation and wait for power to return

Q.48 Eight people are sitting in two parallel rows containing 4 people each in such a way that there is equal distance between adjacent persons. In row 1 – A, B, C and D are seated and all of them are facing south. In row 2 – P, Q, R and S are seated and all of them are facing north. Thus each person faces another person from the other row.

No one sits to the left of B. R faces the person who sits second to the right of D. C faces the person who is the immediate neighbour of Q and R, B does not face S. Who amongst the following faces P?

1. B✅

2. D

3. C

4. A

Q.49 Which of the following statements is NOT true?

1. The range of clinical thermometer is 35 to 42°C.

2. Clinical thermometer should not be used to measure the temperature of boiling water.

3. Laboratory thermometer cannot be used to measure body temperature.

4. Clinical and laboratory thermometers are the same.✅

Q.50 ABC Association meeting is to be held on the 2nd Sunday of next month. The cost of the registration is ₹50 per person. Lunch will be provided to the participants at an additional cost of ₹24. If the number of participants who paid for lunch was 100 more than the members who did not, and if the total receipts for registrations and lunch is ₹69,400, how many people registered and how many lunches are to be prepared, respectively?

1. 1100 and 600✅

2. 1100 and 1100

3. 500 and 600

4. 1100 and 500

Q.51 In a certain code language, 'GOES' is coded as '8624' and 'SNYC' is coded as '3817'. What is the code for 'S' in the given code language?

1. 8✅

2. 2

3. 3

4. 4

Q.52 Why is regular maintenance of HVAC systems considered a medium ECO?

1. It increases the cost of energy.

2. It speeds up system breakdowns.

3. It decreases the system's energy consumption.✅

4. It prevents overheating of the system.

Q.53 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.)

1. JNEL

2. CGXF✅

3. QULS

4. UYPW

Q.54 Among three partners A, B and C in a business. The capital of B is equal to half the difference between thrice the capital of C and twice the capital of A. If at the end of the year, they received a profit of ₹25,415, what is the share of C (in ₹)?

1. 9,166

2. 8,666

3. 11,666

4. 10,166✅

Q.55 What should come in place of the question mark (?) in the given series?

62 73 87 104 124 ?

1. 134

2. 142

3. 147✅

4. 153

Q.56 A person saves 50% of his income. If his expenditure is ₹440, then his income (in ₹) is:

1. 880✅

2. 560

3. 920

4. 600

Q.57 What is the dimensional equation of mass density (ρ) ?

1. [M L-3 T-2]

2. [M L-2 To]

3. [M L-3 To]✅

4. [Mo L3 To]

Q.58 The interest of (10r)2 in r time at rate $\frac{r}{10}\%$ is _____.

Ans

$\frac{r^4}{20}$

$\frac{r^4}{5}$

$\frac{r^4}{10}$

$10r^4$

Ans: 3 ✅

Q.59 A man rides a bicycle from Point A to Point B in 10 minutes and comes back to Point B along the same path in 10 minutes. If the distance between Points A and B is 1 km, calculate his average velocity?

1. 1.6 m/s

2. 0 m/s✅

3. 3.3 m/s

4. 0.1 m/s

Q.60 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 ::? # : KHM :: OLQ : %

1. # = LIN, % = NKP✅

2. # = LIN, % = NKO

3. # = LIN, % = NLP

4. # = LIM, % = NKP

Q.61 E, F, G, H, P, Q, and R, are sitting around a circular table facing the centre. F sits third to the left of H. Only two people sit between H and G when counted from the right of H. Q is an immediate neighbor of G. P is NOT an immediate neighbour of H. E is an immediate neighbour of Q. Who sits second to the left of E?

1. P✅

2. H

3. G

4. R

Q.62 An electric heater of resistance 50 Ω uses a current of 3 A. Determine the heat generated in 20 seconds.

1. 5000 J

2. 60 J

3. 9000 J✅

4. 1000 J

Q.63 Given below are two sets of numbers. Both the sets are formed using the same mathematical equations or follow a common pattern. Which of the given options follows the same set of mathematical equations or patterns as the sets given in the question?

1333 – 1730 – 2199 – 2746 – 3377

218 – 345 – 514 – 731 – 1002

1. 123 – 146 – 171 – 198 – 227

2. 38 – 51 – 66 – 83 – 102

3. 3 – 6 – 11 – 18 – 27

4. 3 – 10 – 29 – 66 – 127✅

Q.64 Find the minimum value of 2x2 – 5x – 3 and also find x.

1. 6.125 and x = 1.2

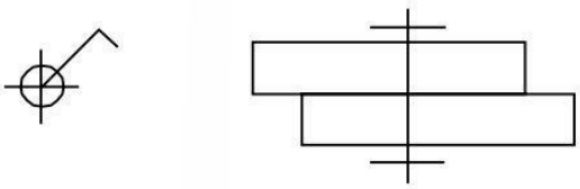
2. –6.125 and x = 1.25 ✅

3. 6.125 and x = 1.25

4. –6.125 and x = 0.25

Q.65 Examine the symbolic representation of the hole and rivet provided

below. According to BIS SP 46-2003, what does this symbol represent?



1. Fitted in the workshop✅

2. Drilled and fitted on-site

3. Drilled in the workshop

4. Drilled on-site

Q.66 Which of the following is an ethical concern related to Information Technology?

1. Increased accessibility to educational resources

2. Reduction in administrative costs

3. Enhancement of communication channels

4. Privacy violations and data breaches✅

Q.67 Select the pair which follows the same pattern as that followed by the two sets of pairs

given below. Both pairs follow the same pattern.

ARF : YTH

WVJ : UXL

1. MEL : HZN

2. KXF : HZH

3. QEB : NBD

4. SZN : QBP✅

Q.68 What is necessary for a circuit to have electric current flowing through it?

1. Only wire

2. Only bulb

3. Only switch

4. A closed conducting path with a voltage source✅

Q.69 A, B, C, D, E and F live on six different floors of the same building. The lowermost floorin the building is numbered 1, the floor above it is numbered 2 and so on till the topmost floor is numbered 6. E lives on an even-numbered floor but not 4. The sum of floors on which E and B live is 9. Only three people live between A and C. The sum of floors on which F and C live is 3. What is the sum of floors on which B and F live?

1. 5✅

2. 6

3. 4

4. 7

Q.70 If 21.6 : x :: x : 29.4, and x > 0, then find the value of x.

1. 25.4

2. 23.9

3. 25.2✅

4. 23.3

Q.71 Which of the following is a main greenhouse gas that is responsible for global warming?

1. Nitrogen

2.Helium

3.Carbon Dioxide✅

4.Oxygen

Q.72 Two trains are running in opposite directions at the same speed. The length of each train is 175 m. If they cross each other in 7 s, the speed of each train is:

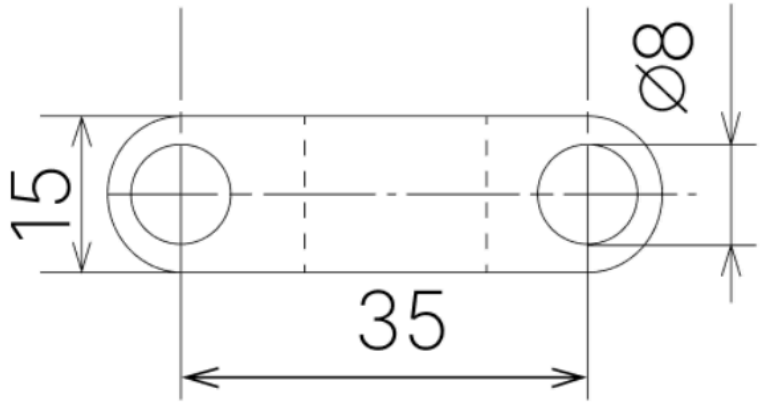
1. 90 km/hr✅

2. 85 km/hr

3. 75 km/hr

4. 80 km/hr

Q.73 What type of view is represented of the given machine component?



1. Orthographic view✅

2. Oblique view

3. Isometric view

4. Perspective view

Q.74 Which of the following is NOT an SI unit?

1. Kilogram

2. Hour✅

3. Metre

4. Mole

Q.75 Which of the following is NOT a good heat conductor?

1. Aluminum

2. Fur✅

3. Iron

4. Copper

Q.76 Which of the following options is NOT a necessary characteristic of a kite?

1. The pairs of opposite angles are bisected by the corresponding diagonals.✅

2. At least one pair of opposite angles is congruent.

3. At least one diagonal is bisected by the other diagonal.

4. The diagonals are perpendicular to each other.

Q.77 What should come in place of the question mark (?) in the given series?

179 171 163 ? 147 139

1. 157

2. 153

3. 151

4. 155✅

Q.78 Four chairs and a table set up cost ₹22,000. Determine the table's cost, if it is ₹2,000 more expensive than the chair.

1. ₹6,500

2. ₹4,000

3. ₹5,000

4. ₹6,000✅

Q.79 The cost of painting a spherical ball at the rate of ₹2.50 per cm2 is ₹13,860. What is the diameter of the ball (use Π = ( )?

1. 48 cm

2. 40 cm

3. 21 cm

4. 42 cm✅

Q.80 Which of the following processes causes accumulation of heavy metals such as lead and mercury in soil?

1. Natural soil formation

2. Water evaporation

3. Ozone layer depletion

4. Improper disposal of industrial wastes✅

Q.81 Read the given statement and conclusions carefully. Assuming that the information given in the statement 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 statement.

Statement:

Over the past year, there has been a noticeable increase in respiratory diseases in City W. According to a public health study, this increase is related to an increase in the number of cars on the road, which has raised air pollution levels.

Conclusions:

I. Increased vehicular traffic contributes to higher levels of air pollution.

II. Improving public transportation would reduce respiratory illnesses in City W.

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.82 A force of 6 N is exerted on an object, resulting in its displacement of 2 m in the direction of the force. If the force is constant during the displacement, what is the work done in this case?

1. 25 J

2. 12 J✅

3. 3 J

4. 10 J

Q.83 In order to resolve disputes arising from cyber crime, such as tampering with computer source documents, hacking the computer system, using password of another person and publishing sensitive personal data of others without their consent, a forum has been established by the Central Government (India) in accordance with the provisions contained under Section 48(1) of the Information Technology Act, 2000. What is the name of that forum?

1. Cyber Appellate Tribunal✅

2. Cybercrime Reporting Tribunal

3. Internet Crime Complaint Center

4. National Cybercrime Reporting Station

Q.84 Calculate the resistance of the bulb filament if it draws 200 mA current from 220 V source.

1. 0 Ω

2. 1100 Ω✅

3. 220 Ω

4. 44 Ω

Q.85 If 24 joules of work is done in moving a charge of 2 coulombs across two points, then what will be the correct voltage across these two points?

1. 12 V✅

2. 48 V

3. 2 V

4. 24 V

Q.86 A mass m is moving with a velocity v and its kinetic energy is K. What will be the new kinetic energy if the velocity is doubled?

1. 4 K✅

2. K/2

3. 2 K

4. K

Q.87 A porter lifts a 10 kg luggage from the ground and places it on his head, 2.5 m above the ground. Calculate the work done by him on the luggage. (Take g = 10 ms−2 .)

1. 250 N

2. 200 J

3. 100 J

4. 250 J✅

Q.88 Which of the following is NOT correct about Joule's law of heating?

1. Heat produced in a resistor is directly proportional to the square of the current for a given resistance.

2. Heat produced in a resistor is directly proportional to the time for which the current flows through the resistor.

3. Heat produced in a resistor is directly proportional to the resistance for a given current.

4. Heat produced in a resistor is inversely proportional to the square of the current for a given resistance.✅

Q.89 What should come in place of the question mark (?) in the given alpha-numeric series?

Y13, F11, L9, Q7, U5, X3, ?

Ans 1. Y1

2. A1

3. Z1✅

4. Z2

Q.90 Which of the following statements is INCORRECT?

Ans 1. Burning of feet on hot sand is an example of heat transfer by conduction.

2. Conduction is the process of heat transfer from hotter body to colder body.

3. Conduction is the process of heat transfer that does not require any medium to transfer heat.✅

4. In solids, heat transfer is typically carried out through conduction.

Q.91 A shopkeeper allows a discount of 18% on the marked price of an article and sells it for ₹2,870. Find the marked price of the article.

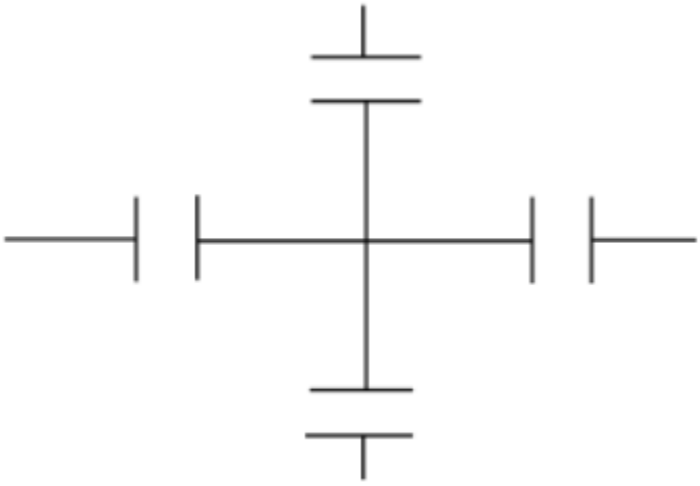
1. ₹3,200

2. ₹3,460

3. ₹3,500✅

4. ₹3,350

Q.92 Identify the orthographic symbol of a pipe fitting shown in the figure.



1. Cross✅

2. Union

3. Tee

4. Bend

Q.93 What should come in place of the question mark (?) in the given alpha-numeric series? Q16, O14, M12, K10, I8, ?

1. H6

2. G6✅

3. G4

4. J6

Q.94 What is the value of 100 g in SI units?

1. 1 kg

2. 100 kg

3. 0.1 kg✅

4. 10 kg

Q.95 Three partners, A, B and C, shared the profit in a business in the proportion of 11 : 13 :16. They invested their capitals for 7 months, 5 months and 12 months, respectively. What was the ratio of their capitals?

1. 165 : 273 : 140✅

2. 3 : 5 : 8

3. 21 : 35 : 44

4. 96 : 135 : 101

Q.96 A shopkeeper sells sugar at ₹30 per kg, which he has bought at ₹24 per kg. Being dishonest, he also gives only y gm of sugar instead of 1000 gm that is mentioned on the weight. In this way, the shopkeeper manages to make an overall profit of . What is the value of y?

1. 800

2. 720

3. 600

4. 750✅

Q.97 Which of the following keyboard shortcuts on a Windows 10 home screen opens the item's properties?

1. Insert + Alt

2. Tab + Del

3. F2 + Alt

4. Alt + Enter✅

Q.98 The speed of a train is 144 km/hr. The distance covered by the train in 12 seconds is:

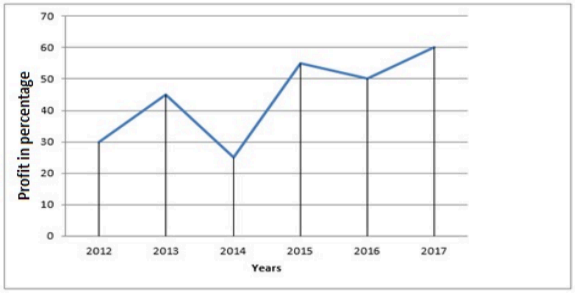
1. 480 m✅

2. 518 m

3. 103 m

4. 78 m

Q.99 Study the given graph and answer the question that follows.



What is the average profit percentage of the given years?

1. 44.1%✅

2. 45%

3. 43.4%

4. 44%

Q.100 How is a voltmeter connected in a circuit to measure potential difference?

1. In series with the circuit

2. Neither in series nor in parallel

3. In parallel across the points where potential difference is to be measured✅

4. Directly to the power source only

Section : PART-B

Q.1 Which component in a thermal relay is responsible for detecting temperature changes?

1. Electromagnet

2. Transformer

3. Resistor

4. Bimetallic element✅

Q.2 When should the measurement of electrode resistance be conducted during the installation of an earthing system?

1. Only when the earthing system shows signs of malfunction

2. At the time of initial design

3. After backfilling the earth electrode

4. Before backfilling the earth electrode✅

Q.3 Increasing which of the following will decrease the inductance of a solenoid?

1. Core permeability

2. Number of turns

3. Length of the coil✅

4. Cross-sectional area

Section : PART-B

Q.4 The typical switching speed of GTOs is _____.

1. infinity

2. very fast

3. high

4. relatively slow✅

Q.5 A voltmeter with a resistance of 10,000 ohms is connected across a circuit that has a voltage of 50 V. What is the current flowing through the voltmeter?

1. 4 mA

2. 1 mA

3. 2 mA

4. 5 mA✅

Q.6 The SI unit of temperature is/are _____.

1. fahrenheit

2. celsius

3. kelvin✅

4. both kelvin and celsius

Q.7 For which purpose is mineral oil provided in an oil-filled transformer?

1. Insulation purpose only

2. Cooling purpose only

3. Both cooling and insulation purpose✅

4. Prevent moisture

Q.8 What is the main purpose of the field winding in a DC generator?

1. To conduct load current

2. To reduce armature reaction

3. To produce the required magnetic field✅

4. To convert AC to DC

Q.9 Which of the following statements is INCORRECT about end standard?

1. Faces are subject to wear.

2. It is used to measure the distance between two engraved lines.✅

3. It is slower but more accurate.

4. It measures the distance between two parallel flat surfaces.

Q.10 Which of the following information is necessary to construct a rectangle?

1. Only the length of one side

2. Length of two adjacent sides✅

3. Only the length of the diagonal

4. Length of one side and the area of the rectangle

Q.11 If inductance (L) is doubled, what happens to inductive reactance?

1. It becomes zero.

2. It doubles.✅

3. It becomes half.

4. It remains the same.

Q.12 Which of the following 'V' blocks will have one 'V' groove and two grooves (slots) on either side for clamping in two positions?

1. Single level double groove 'V' block✅

2. Double level single groove 'V' block

3. Single level single groove 'V' block

4. Matched pair 'V' block

Q.13 Which of the following characteristics of a GTO is most important for its use in highpower switching applications?

1. Its ability to handle very low currents.

2. Its high thermal stability.

3. Its fast switching speed.

4. Its ability to be turned off by a gate signal.✅

Q.14 Which of the following is the most common application of an Earth Leakage Circuit Breaker (ELCB)?

1. Protecting electrical appliances from overload

2. Protecting high-voltage transmission lines

3. Preventing electrical fires in buildings✅

4. Detecting voltage fluctuations in the system

Q.15 In a three-phase system with a line-to-line voltage of 400 V and a line current of 10 A, what is the total real power in Watt, delivered to the load if the power factor is 0.9?

$4000\sqrt{3}$ W

$3600\sqrt{3}$ W

$3000\sqrt{3}$ W

$45000\sqrt{3}$ W

Ans: 2 ✅

Q.16 Which of the following types of chisels is used for separating metals after chain

drilling?

1. Flat chisel

2. Web chisel✅

3. Cross-cut chisel

4. Diamond point chisel

Q.17 What is the typical temperature range of a mercury-based clinical thermometer?

1. 35°C to 42°C✅

2. 0°C to 50°C

3. −10°C to 110°C

4. 0°C to 100°C

Q.18 Apart from lamp holders, where else is a cord grip or underwriter's knot used?

1. Earthing systems

2. Pull switches✅

3. High-voltage substations

4. Circuit breaker panels

Q.19 Find the lateral surface area of a cube with side length 5 cm.

1. 125 cm^2

2. 200 cm^2

3. 100 cm^2✅

4. 150 cm^2

Q.20 In electrodynamometer type synchroscope, moving coil is connected:

1. in parallel with capacitor across terminals of incoming machines

2. in series with inductance across two phases of busbar

3. between two pressure coils✅

4. in series with resistance across busbars

Q.21 The gate current in an ideal FET is _____.

1. zero✅

2. equal to the drain current

3. very high

4. proportional to the source current

Q.22 What is the main reason for using a snubber circuit in IGBT-based circuits?

1. To reduce the gate charge

2. To protect the IGBT from voltage spikes during switching✅

3. To minimise the switching losses

4. To increase the switching speed

Q.23 For a DC motor installation with explosion-proof certification, which standard must be followed for enclosure and wiring compliance?

1. ISO 9001

2. ANSI C84.1

3. NFPA 70

4. IEC 60034-1✅

Q.24 The wave set of hacksaw teeth set has a pitch of _____.

1. 1.0 mm

2. 0.8 mm✅

3. 2.0 mm

4. 0.5 mm

Q.25 Transformer is a _____.

1. synchronous motor as a rotating transformer

2. static device✅

3. moving device

4. rotating device

Q.26 According to IEEE 80, the resistance of the ground system should be _____.

1. equal to the system's total load current

2. moderate to prevent excessive current flow

3. low enough to allow fault currents to safely dissipate into the earth✅

4. as high as possible to ensure efficient operation

Q.27 Which of the following terms in the 5S concept refers to making a habit of maintaining the established procedures?

1. Sort

2. Set

3. Sustain✅

4. Shine

Q.28 Which of the following calipers are used for marking lines, parallel to inside and outside edges and for locating the centre of round bars?

1. Simple calipers

2. Leg and point calipers✅

3. Firm joint calipers

4. Spring joint calipers

Q.29 Which of the following statements about earth resistance in context of earthing is true?

1. Higher earth resistance increases the effectiveness of grounding.

2. Lower earth resistance improves the performance of an electrical system.✅

3. Earth resistance only affects power transmission efficiency.

4. Earth resistance does not affect electrical safety.

Q.30 Which DC motor is preferred in steel rolling mills and elevators?

1. DC Shunt Motor

2. DC Series Motor

3. Permanent Magnet DC Motor

4. Cumulative Compound Motor✅

Q.31 The key feature of an IGBT is that it combines the characteristics of _____.

1. a transistor and an amplifier

2. a BJT and a MOSFET✅

3. a diode and a capacitor

4. a diode and a transistor

Q.32 Toroidal inductors are shaped like a:

1. cylinder

2. ring✅

3. cone

4. cube

Q.33 If a DC motor fails to start, what should be checked first?

1. Motor shaft alignment

2. Commutator polishing

3. Field winding resistance

4. Power supply connections and voltage✅

Q.34 Who is authorised to conduct road tests on workshop vehicles?

1. Any employee

2. The company accountant

3. Visitors to the workshop

4. Only trained and certified personnel✅

Q.35 According to Faraday's law, the magnitude of induced EMF in a DC generator depends

on the _____.

1. resistance of the conductor

2. rate of change of magnetic flux✅

3. material of the conductor

4. length of the conductor only

Q.36 The insulation resistance of any wiring installation should NOT be less than _____ for operating voltage 1000 volt.

1. 1 mega ohm✅

2. 100 ohm

3. 1 kilo ohm

4. 10 ohm

Q.37 What may happen if a flexible cable in a pendant lamp is not secured with a cord grip or underwriter's knot?

1. The ceiling will overheat.

2. The lamp will consume more power.

3. The cable connection may come out, leading to a shock hazard.✅

4. The lamp will emit dim light.

Q.38 What is the SI unit of 'volume'?

1. Litres

2. Cubic centimetre✅

3. Millilitres

4. Cubic metre

Q.39 If the length of a resistor is doubled, what happens to its resistance, assuming all other factors remain constant?

1. The resistance is doubled.✅

2. The resistance is halved.

3. The resistance quadruples.

4. The resistance remains the same.

Q.40 What is NOT an advantage of using plate earthing over other types of earthing?

1. Requires less maintenance

2. More suitable for high-voltage systems✅

3. Low installation cost

4. Provides low resistance in high-resistivity soil

Q.41 Which of the following colours is commonly used for caution signs?

1. Yellow✅

2. Green

3. Blue

4. Red

Q.42 Which of the following statements about title block is/are true?

Statement 1: The title block is situated in the bottom right-hand corner of the drawing sheet.

Statement 2: The contents of the title block are standardised and cannot be modified to suit individual company needs.

1. Both statements are false

2. Both statements are true

3. Statement 1 is false, but statement 2 is true

4. Statement 1 is true, but statement 2 is false✅

Q.43 In a logic circuit, two inputs A and B are applied to an AND gate, and the output of the AND gate is connected to the input of a NOT gate. If the inputs A and B are both at logic 0, what will be the output of the entire circuit?

1. 1✅

2. 0

3. Undefined

4. 2

Q.44 When creating 10 mm single-stroke capital letters in vertical style, what does the 10 mm distance between horizontal parallel lines represent?

1. Interline spacing

2. Stroke thickness

3. Letter height✅

4. Letter width

Q.45 How does an Earth Leakage Circuit Breaker (ELCB) work in an electrical system?

1. It monitors the voltage drop in the system.

2. It regulates the current flowing to the earth electrode.

3. It detects high current flow and trips to prevent overloads.

4. It compares the incoming and outgoing currents to detect imbalance, indicating leakage to earth.✅

Q.46 Rotating field type alternator is generally used for rating of up to _____.

1. 1000 MVA✅

2. 100 kVA

3. 250 KVA

4. 1000 VA

Q.47 Convert 8.5% into a decimal.

1. 0.85

2. 85

3. 0.085✅

4. 8.5

Q.48 Which of the following statements is NOT correct for using scribers?

1. Place a cork on the point when in use to prevent accidents.✅

2. Do not put the scriber in your pocket.

3. While scribing lines, the scriber is used like a pencil.

4. Scriber points are very sharp, so they are to be handled very carefully.

Q.49 Which of the following switch types is required along with an intermediate switch to control a lamp from three or more positions?

1. Push-button switches

2. One-way switches

3. Dimmer switches

4. Two-way switches✅

Q.50 What is the minimum age for employment in factories or mines or other hazardous employment, according to Article 24 of the Indian Constitution?

1. 14 years✅

2. 16 years

3. 18 years

4. 12 years

Q.51 Which of the following best describes the working of a TRIAC?

1. It is a device used to store energy.

2. It is a voltage-controlled device.

3. It switches both AC and DC currents.

4. It is a current-controlled device.✅

Q.52 A 100-mm prick punch with a 7-mm diameter body could have a 2.5-mm diameter point ground to an angle of _____.

1. 45°

2. 90°

3. 30°✅

4. 120°

Q.53 What is the formula for the total capacitance of capacitors connected in parallel?

1. $\frac{1}{C_{TOTAL}} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} + \ldots$
2. $C_{Total} = C_1 + C_2 + C_3 + \ldots$
3. $C_{TOTAL} = \frac{(C_1 * C_2)}{(C_1 + C_2)}$
4. $C_{TOTAL} = (C_1 + C_2)^2$

Ans: 2 ✅

Q.54 What does the term 'Ferreed' in Ferreed relay stand for?

1. A type of current sensing relay

2. A voltage stabiliser component

3. A combination of ferrite and reed switch✅

4. A thermally operated relay

Q.55 Which of the following conditions is NOT required for parallel operation of alternator?

1. They may have different frequency.✅

2. Alternator should be of the same type.

3. Prime movers of alternator should have the same speed load characteristics.

4. They may have the same output voltage rating.

Q.56 The function of slots on stator is to:

1. excite the field system

2. provide effective cooling

3. house the armature conductors✅

4. strengthen the core

Q.57 Match the following types of lines with their correct descriptions according to their orientation and characteristics.

Description

A. A line that is neither parallel to a horizontal plane nor perpendicular to it.

B. A line that is perpendicular to horizontal lines.

C. A line that changes its direction continuously.

D. A line that is parallel to a horizontal plane.

1. A - 2, B - 1, C - 4, D - 3

2. A - 1, B - 2, C - 3, D - 4

3. A - 3, B - 2, C - 4, D - 1✅

4. A - 2, B - 3, C - 4, D - 1

Q.58 After solving the series and parallel combinations, what is the final equivalent resistance between A and B?

1. 10 Ω

2. 6 Ω

3. 8 Ω

4. 4 Ω

Q.59 Which of the following is the primary reason why copper is widely used as a conductor

in electrical wiring?

Ans 1. Copper has low resistance and high conductivity.

2. Copper is abundant and inexpensive.

3. Copper has high resistance to electricity.

4. Copper has a low melting point.

Q.60 In an ideal transformer, the primary and secondary windings resistance is:

Ans 1. 1000 ohm

2. 0 ohm

3. 100 ohm

4. 1000000 ohm

Q.61 Which component(s) is/are required to obtain a proportional DC voltage for a voltage

sensing relay?

Ans 1. Capacitor and diode

2. Transformer and rectifier

3. Resistor and inductor

4. Motor and generator

Q.62 Which type of line is used to represent hidden edges or surfaces in a technical drawing,

as per BIS SP 46-2003?

Ans 1. Chain thin line

2. Continuous thick line

3. Dashed thin line

4. Continuous thin line

Q.63 In the process of bisecting angle BAC in the given figure, why do we

draw arcs from points D and E?

Ans 1. To intersect line AC

2. To intersect above A

3. To find midpoint AB

4. To mark equal lengths

Q.64 In a long-shunt compound DC generator, the shunt field winding is connected _____.

Ans 1. in series with the armature

2. in parallel with both armature and series field winding

3. only to the load

4. between the series field and load

Q.65 In a three-phase system, if the phase current is 20 A in a delta connection, what is the

line current?

Ans 1. 10 A

2.

3.

4. 20 A

Q.66 For your safety at work, which of the following should be ensured?

1. All the required protective clothing and equipment are used.

2. Training and instruction necessary for performing tasks safely have been received.

Ans 1. Neither statement 1 nor 2

2. Both statements 1 and 2

3. Only statement 2

4. Only statement 1

Q.67 In a series circuit, three resistors of 10 ohms, 20 ohms, and R ohms are connected in

series with a 12 V battery. What is the value of resistance R if current flowing in the

circuit is 0.2 A?

Ans 1. 10 ohms

2. 40 ohms

3. 30 ohms

4. 20 ohms

Q.68 Select the INCORRECT statement with regards to a three-phase star-connected AC

circuit.

Ans 1. The line voltage is the voltage between any two line of the circuit.

2. The phase voltage is the voltage between the neutral point and any phase of the circuit.

3. The line voltage is higher than the phase voltage.

4. The phase voltage is higher than the line voltage.

Q.69 In a four-band resistor, what does the third band represent?

Ans 1. Multiplier

2. First significant digit

3. Tolerance

4. Second significant digit

Q.70 Which parameters of two identical transformers are determined using Back-to-back

test?

Ans 1. Friction loss and resistance

2. Efficiency and voltage regulation

3. Friction loss and inductance

4. Mechanical loss and inductance

Q.71 If 50 W of power is applied to the primary of an ideal transformer with a turns ratio of

10, the power delivered to the secondary load is:

Ans 1. 500 W

2. 100 W

3. 50 W

4. 5 W

Q.72 Consider the following statements for a three phase AC circuit.

Statement 1: In a balanced three-phase system, the line current is always equal to the

phase current in a star-connected load.

Statement 2: In a delta-connected system, the phase voltage is equal to the line voltage.

Select the correct option based on above statements.

Ans 1. Statement 1 is true, and Statement 2 is false.

2. Statement 1 is false, and Statement 2 is true.

3. Both Statement 1 and Statement 2 are false.

4. Both Statement 1 and Statement 2 are true.

Q.73 In a balanced three-phase system, the power delivered by the system depends on

_____.

Ans 1. phase voltage only

2. phase voltage, phase current and power factor

3. phase current only

4. power factor only

Q.74 When passing stationary vehicles, keep a watch on _____ who may come out

suddenly from the front of the stationary vehicle. While overtaking, it should be done

on the _____ side. Always keep a good _____ between your vehicle

and others.

Ans 1. pedestrians; right; distance

2. cyclists; left; interval

3. vehicles; right; gap

4. drivers; left; space

Q.75 Which of the following metals has the lowest melting point?

Ans 1. Iron

2. Gold

3. Lead

4. Mercury