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RRB ALP 2018 CBT-2 Electronics Mechanic

Assistant Loco Pilot & Technicians · CEN 01/2018 · CBT-2 (21-23 Jan 2019) · Trade: Electronics Mechanic · Question Paper

English

Complete Paper · 175 Questions · Official Answer Key

About this Compilation

This booklet contains the complete question paper of the **RRB ALP 2018 CBT-2 Electronics Mechanic** examination in **English**, with the correct option marked as per the official answer key.

✓ Correct option (highlighted green)

Source. Original images of the official RRB response sheets (no retyping). Paper = Part A 100 (Maths, Reasoning, Basic Science & Engineering, Current Affairs) + Part B 75 (trade).

Not in this edition (less than half saved in English; see the Hindi edition): 21 Jan 8:30 AM.

How to use

- Use the **Index** page to jump directly to any set (clickable).
- Questions appear section by section in the order of the paper, numbered 1 onward.
- Diagram and wide-table questions appear at full width at the end of their section.
- The correct answer is highlighted in green with a tick.

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Index — All Sets (click to open)

Set 1
21 Jan 2019
12:30 PM - 3:00 PM

Part A 100 Questions • Answer Key

Q1 Part A

Find the volume (in cm^3) of a piece of metal of density 5000 kg/m^3 and which weighs 10.8 N. (Use $g = 10m/s^2$)

A. 21.6

B. 540

C. 54

D. 216 ✓

Q2 Part A

A seller starts on her daily routine. She walks 7 km north, then turns west and walks 6 km, then turns south and walks 2 km, then turns west and walks 3 km, then turns to her left and walks 5 km. Where is she now with reference to her starting position?

A. 3 km west

B. 3 km east

C. 9 km west ✓

D. 9 km east

Q3 Part A

A/An _____ is a pointing and drawing device shaped like a pen. It is used on a touch screen.

A. flag

B. stylus ✓

C. index

D. cursor

Q4 Part A

The notation Ø7 means _____.

A. depth of wall 7 units

B. radius 7 units

C. length of edge 7 units

D. diameter 7 units ✓

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Q5 Part A

A trader buys 200 kg of grain for ₹ 8,000. 4% of this grain is lost in transportation. At what rate should he sell the rest to earn 20% profit?

A. ₹ 54/kg

B. ₹ 50/kg ✓

C. ₹ 48/kg

D. ₹ 45/kg

Q6 Part A

$\cot 30^\circ - \frac{1}{2} \times \operatorname{cosec} 60^\circ =$

A. $\frac{\sqrt{2}}{3}$

B. $\frac{2}{3}$

C. $\frac{2}{\sqrt{3}}$ ✓

D. $\frac{\sqrt{2}}{\sqrt{3}}$

Q7 Part A

In the finals of Indian Premier League (IPL) in 2018, Chennai Super Kings played against _____.

A. Royal Challengers Bangalore

B. Kolkata Knight Riders

C. Mumbai Indians

D. Sun Risers Hyderabad ✓

Q8 Part A

$\sqrt{0.015625} \times \sqrt{0.0256} =$ _____.

A. 0.02 ✓

B. 0.002

C. 0.004

D. 0.04

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Q9 Part A

Which of the following is an example of a third class lever?

A. Nut cracker

B. Ice tongs ✓

C. Wheel barrow

D. See-saw

Q10 Part A

Rearrange the parts of the sentence in the order to form a meaningful English sentence.

Till a few years back, I used

X-used to intermingle with literature and humanism

Y-to admire at the great and insightful language used in

Z-some of the judgments of the higher judiciary, where law

A. ZYX

B. YZX ✓

C. YXZ

D. XZY

Q11 Part A

Two trains start at the same time. Train A travelling at an average speed of 54 km goes from city M to city N, while Train B goes from city N to city M. The distance between the two cities is 960 km. Find the average speed (in km/hr) of train B, if both trains cross each other after 8 hours?

A. 76

B. 60

C. 72

D. 66 ✓

Q12 Part A

In a certain code language, STOLE is coded as 39468 and RICH is coded as 5271. Using the same code language, word THIS will be coded as:

A. 9123 ✓

B. 7583

C. 3274

D. 9283

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Q13 Part A

If $a + b = 9$ and $a^2 + b^2 = 53$, then find the value of ab.

A. 18

B. 8

C. 14 ✓

D. 20

Q14 Part A

Find mass (in gm) of a gold coin of radius 2 cm and thickness 0.05 cm. (Density of gold 19.3 gm/cm^3)

A. 12.1 ✓

B. 0.03

C. 0.06

D. 6.1

Q15 Part A

The apparent mass of a piece of metal when fully immersed in water is 60 gm. If the relative density of this metal piece is 2.5, find its actual mass (in gm)?

A. 40

B. 100 ✓

C. 400

D. 300

Q16 Part A

A retailer sells an item for ₹ 486 and he makes 8% profit. If he were to sell that item for ₹ 414, then he would make:

A. 4% loss

B. 8% loss ✓

C. 12% loss

D. 10% loss

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Q17 Part A

A body of mass 60 kg weighs 222 N on Mars. What is the acceleration due to gravity (in m/s^2) on Mars?

A. 13.32

B. 4.9

C. 3.7 ✓

D. 19.8

Q18 Part A

The circumference of a planet is 36,000 km. If the planet makes no other movement and takes 20 hours for one complete rotation, what is the speed of a point on its equator?

A. 200 m/s

B. 400 m/s

C. 300 m/s

D. 500 m/s ✓

Q19 Part A

_____ is the fibre remaining after the extraction of the sugar-bearing juice from sugarcane.

A. Compost

B. Forage

C. Bagasse ✓

D. Cullet

Q20 Part A

If A $ B means A is the sister of B, A # B means A is the mother of B and if A × B means A is the father of B, then what does P × Q $ R # S mean?

A. P is the son-in-law of S

B. P is the father of S

C. P is the grandfather of S ✓

D. P is the son of S

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Q21 Part A

A pilgrim travelled a distance of 50 km in 7.5 hours. He travelled partly on foot at 4 km/hr and partly on a bullock cart at 12 km/hr. The distance travelled on foot is _____ km.

A. 30

B. 20 ✓

C. 26

D. 24

Q22 Part A

In the following question, which set of letters will logically complete the below letter series when the letters in the set are placed in the gap sequentially from left to right.

c_ax_za_cz_xc_a

A. bybyb ✓

B. bbyyc

C. bbxyc

D. bbyyb

Q23 Part A

Which of the following substances has the highest density?

A. Mercury

B. Gold ✓

C. Iron

D. Copper

Q24 Part A

The mean of the numbers 1, 4, 9, X, 12, 14, 15 and 16 is 10. Find the mode.

A. 11

B. 9 ✓

C. 12

D. 10

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Q25 Part A

Select the option that is related to the third word on the same basis as the second word is related to the first word.
Lawyer : Judge :: Teacher : ?

A. School
B. Classroom
C. Student
D. Principal ✓

Q26 Part A

The efficiency of a pump is 50%. It lifts 2 tonnes of water by 60 m in 20 minutes. Find the input power (in kW) of the pump.

A. 1
B. 4
C. 2 ✓
D. 3

Q27 Part A

A/An _____ is a special high-speed storage mechanism.

A. cache ✓
B. board
C. host
D. interface

Q28 Part A

A uniform meter scale weighs 75 g. It is pivoted at the 50 cm mark. A 40 g mass is placed at the 20 cm mark and a 50 g mass is placed at the 90 cm mark. Where should a 20 g mass be placed so that the scale is in equilibrium?

A. At the 96 cm mark
B. At the 4 cm mark
C. At the 54 cm mark
D. At the 46 cm mark ✓

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Q29 Part A

Specific heat capacity of lead is 125 $Jkg^{-1}K^{-1}$. If the temperature of a block of 250 g of lead rises by 10°C on absorbing 5kJ of heat, then find its heat capacity.

A. 200 JK^{-1}

B. 325 $Jkg^{-1}K^{-1}$

C. 500 JK^{-1} ✓

D. 250 $Jkg^{-1}K^{-1}$

Q30 Part A

A car of 500 kg mass has a kinetic energy of 64 kJ. Find its speed (in m/s).

A. 32

B. 48

C. 16 ✓

D. 64

Q31 Part A

In the question, two statements are given, followed by two conclusions I and II. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.

Statement 1 : All boots are sneakers.
Statement 2 : All sneakers are shoes.

Conclusion I : Some shoes are boots.
Conclusion II : Some sneakers are boots.

A. Neither I nor II follows

B. Only conclusion I follows

C. Both I and II follow ✓

D. Only conclusion II follows

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Q32 Part A HINDI - no English version saved

E ने F से कहा, "तुम मेरे पुत्र की पत्नी के ससुर हो।" F का E से क्या संबंध है?

A. F, E का साला है

B. F, E का पति है ✓

C. F, E का पिता है

D. F, E की पत्नी है

Q33 Part A

Find the slope of the line given by the equation $4x + 6y = 9$.

A. $\frac{-3}{2}$

B. $\frac{-2}{3}$ ✓

C. $\frac{2}{3}$

D. $\frac{3}{2}$

Q34 Part A

What is the angle between the hour hand and the minute hand at quarter to five?

A. 147.5°

B. 135.5°

C. 115.5°

D. 127.5° ✓

Q35 Part A

Select the option that is related to the third word on the same basis as the second word is related to the first word.

Sugarcane : Jaggery :: Coconut: ?

A. White

B. Coir ✓

C. Seashore

D. Fruit

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Q36 Part A

Who founded Project Nanhi Kali in 1996?

A. Ratan Tata

B. Narayana Murthy

C. Anand Mahindra ✓

D. Azim Premji

Q37 Part A

What is the binary equivalent of decimal 413?

A. 110011101 ✓

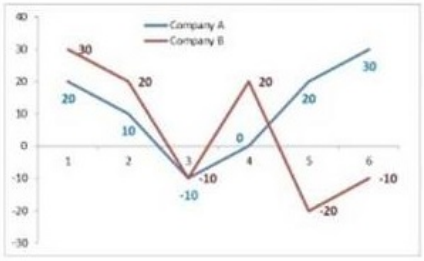
B. 111001001

C. 110110111

D. 100111111

Q38 Part A

The line graphs show the profit (in lakh rupees), for 6 years, of two companies A and B. The ratio of the cumulative profits for these 6 years of Company B to Company A is:



A. 3 : 7 ✓

B. 7 : 8

C. 8 : 7

D. 7 : 3

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Q39 Part A

-200° Celsius = _____ Fahrenheit

A. -73°

B. 73°

C. -392°

D. -328° ✓

Q40 Part A

One statement is given followed by two assumptions, I & II. You have to consider the statement to be true, even if it seems to be at variance from commonly known facts. You are to decide which of the given assumptions is/are implicit in the given statement.

Statement : Teachers should never scold students who make repeated mistakes.
Assumptions:
I. Students do not make repeated mistakes intentionally.
II. Negative reinforcements are NOT a good method to improve student performance.

A. Both I and II are implicit ✓

B. Only assumption II is implicit

C. Neither I nor II is implicit

D. Only assumption I is implicit

Q41 Part A

_____ is the distance from the pitch circle to the bottom of the tooth space in a gear.

A. Hub

B. Bore

C. Addendum

D. Dedendum ✓

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Q42 Part A

In the question, two statements are given, followed by three conclusions I, II and III. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follow(s) from the given statements.

Statement 1 : Some huts are cabins.
Statement 2 : No cabins are cottages.

Conclusion I : Some cabins are huts.
Conclusion II : Some cottages are huts.
Conclusion III : All huts are cottages.

A. All conclusions I, II and III follow
B. Only conclusion I and III follow
C. Only conclusion I follows ✓
D. Only conclusion III follows

Q43 Part A HINDI - no English version saved

उस शब्द का चयन करें, जो अन्य से भिन्न हो।

A. ऊन ✓
B. जूट
C. नारियल की जटा
D. कपास

Q44 Part A

Which of the following is the correct relation between potential difference 'V' across a metal wire of resistivity 'ρ', length 'L' and area of cross section 'A' through which a charge 'Q' flows in 't' seconds?

A. $VAt = Q\rho L$ ✓
B. $VLt = AQ\rho$
C. $VQt = A\rho L$
D. $V\rho Q = AtL$

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Q45 Part A

The ratio of the present salaries of Vinod and Manoj is 6 : 7. If both of them get their salaries increased by ₹ 16,000, then the ratio becomes 8 : 9. What is the present salary of Manoj?

A. ₹ 56,000 ✓

B. ₹ 48,000

C. ₹ 72,000

D. ₹ 64,000

Q46 Part A

The difference between the two binary numbers 10010000 and 1111001 is:

A. 11101

B. 10011

C. 10111 ✓

D. 11011

Q47 Part A

A/an _____ is an inclined edge that is NOT at right angle to the joining surface.

A. ogee

B. dupont

C. bullnose

D. bevel ✓

Q48 Part A

If the curved surface area of a cone of radius 14 cm is 2200 cm^2, find its height (in cm).

A. 50

B. 48 ✓

C. 49

D. 56

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Q49 Part A

Which organisation comprises of two institutions: The International Bank for Reconstruction and Development (IBRD) and The International Development Association (IDA)?

A. The International Monetary Fund

B. International Chamber of Commerce

C. International Finance Corporation

D. The World Bank ✓

Q50 Part A

Which of the following folk dances is from Punjab?

A. Nati

B. Giddha ✓

C. Lezim

D. Bagurumba

Q51 Part A

The sentences given in the question, which properly sequenced, form a coherent paragraph. Each sentence is labeled with a letter. Choose the most logical order of sentences from among the given choices to construct a coherent paragraph.

Patty the milkmaid had just finished milking her cow and had two full pails of fresh creamy milk.
A-'Once I get the money, I'll buy a chicken', she thought.
B-She put both pails on a stick and set off to the market to sell her pails of milk.
C-This chicken will lay tens of eggs.
D-Along the way she started to think of all the milk in her pails and all the money she would get for them.

A. DBCA

B. DBAC

C. BDAC ✓

D. BDCA

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Q52 Part A

If 2.5 l of hot water at 85 °C is mixed with 4.5 l of cold water then the temperature of the cold water rises by 15 °C when equilibrium is reached. Find the initial temperature (in °C) of the cold water assuming no heat is lost.

A. 43 ✓

B. 15

C. 25

D. 48

Q53 Part A

In a certain gear train, the driver has _____ teeth while the follower has 10 teeth. For every 16 turns of the driver the follower turns 40 times.

A. 25 ✓

B. 32

C. 8

D. 15

Q54 Part A

Consider that 5 # 11 = 4; 13 # 7 = 5; 10 # 22 = 8. Then what is the value of 10 # 2 =?

A. 8

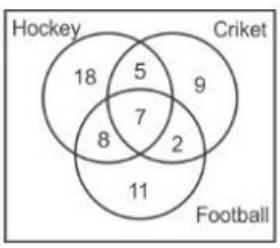
B. 12

C. 3 ✓

D. 20

Q55 Part A

The given Venn diagram shows the number of students in a class who play a particular sport. How many students play Hockey as well as Football?



U=60

A. 8

B. 7

C. 51

D. 15 ✓

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Q56 Part A

Find the current (in mA) flowing through a wire of resistance 25 kΩ when a potential difference of 12.5 V is applied across it.

A. 2

B. 0.5 ✓

C. 0.2

D. 5

Q57 Part A

Which singer entered the Guinness World Records for the most single studio recordings?

A. Mohammad Rafi

B. Kishore Kumar

C. Lata Mangeshkar

D. Asha Bhosale ✓

Q58 Part A

If 25% of a = b, then b% of 160 is same as:

A. 60% of a

B. 80% of a

C. 50% of a

D. 40% of a ✓

Q59 Part A

A/an _____ circle is a circular centre line on a drawing containing the centres of holes about a common centre.

A. bolt ✓

B. concentric

C. peripheral

D. axis

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Q60 Part A

Here are some words from an artificial language.

norusi means batwing

odusi means batman

odzul means superman

Which set of letters would indicate 'superrich' in that artificial language?

A. nadzul ✓

B. gifod

C. tudusi

D. ludnor

Q61 Part A

Which of the following gases is NOT a major greenhouse gas that causes climate change?

A. Carbon dioxide

B. Nitrous oxide ✓

C. Methane

D. Carbon monoxide

Q62 Part A

If a box of mass 25 kg is pushed 15 m by a force of 'F' N, work done in the process is 480 J. Find F:

A. 25

B. 50

C. 16

D. 32 ✓

Q63 Part A

Find the least common multiple of 48 and 54.

A. 144

B. 432 ✓

C. 342

D. 234

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Q64 Part A

By how many degrees celsius should an 800 g calorimeter made of aluminium be heated so that it absorbs 43.2 kJ of heat? Specific heat capacity of aluminium is 0.9 $Jg^{-1}K^{-1}$.

A. 60 ✓

B. 67.5

C. 42.5

D. 120

Q65 Part A

Due to engine trouble, an Express train goes at 9/10th of its usual speed and arrives at 2 : 34 pm instead of 2 : 28 pm. At what time did it start?

A. 1 : 40 pm

B. 1 : 34 pm ✓

C. 1 : 36 pm

D. 1 : 32 pm

Q66 Part A

A can finish 25% of a task in 3 days and B can finish half of the task in 18 days. If they work on it together, in how many days can they finish the task?

A. 9 ✓

B. 12

C. 6

D. 15

Q67 Part A

Find the velocity ratio of a pulley system if it has an efficiency of 50%. It lifts a load of 250 N on applying an effort of 100 N.

A. 10

B. 5 ✓

C. 2.5

D. 7.5

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Q68 Part A

A statement is given, followed by two conclusions. Decide which of the given conclusions can definitely be drawn from the given statement.

Statement: Quality food is expensive. The restaurant owners are renovating the restaurant as the furniture had become old.

Conclusion I: The quality of the restaurant's food will improve.
Conclusion II: All restaurants have to be renovated when their furniture becomes old.

A. Only conclusion I follows

B. Neither I nor II follows ✓

C. Only conclusion II follows

D. Both I and II follow

Q69 Part A

Working together, if A, B and C can finish a task in 4 days. However, after starting the task, B quits and A and C finish the remaining task in 6 days. How many days would B take to finish if he had to perform the task alone?

A. 9

B. 8

C. 12 ✓

D. 15

Q70 Part A

Find the work done (in joules) in moving a charge of 1.6 coulombs across 0.8 V.

A. 2

B. 2.56

C. 0.5

D. 1.28 ✓

Q71 Part A

Name the author of 'The Incredible Adventures of Professor Shonku'.

A. Rahul Bose

B. Rabindranath Tagore

C. Satyajit Ray ✓

D. Ritwik Ghatak

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Q72 Part A

If $\frac{5x}{2} - \frac{5}{3}\left(\frac{3}{2} + \frac{4x}{3}\right) = \frac{5}{6}$ then the value of x is:

A. 6

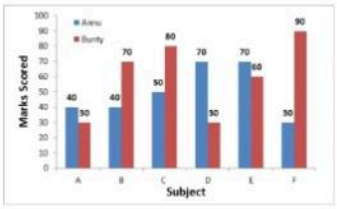
B. 3

C. 4

D. 12 ✓

Q73 Part A

The bar graph shows the marks scored by Annu and Bunty in their exam, which had 6 papers of 100 marks each. If Bunty had scored 25% less in Paper C and 10 marks more in paper A, then he would have scored how much more than Annu in the exam?



A. 15%

B. 10%

C. 12.25%

D. 16.67% ✓

Q74 Part A

A common drug in a first aid box is Ibuprofen. When should Ibuprofen be taken?

A. To bring relief from asthma

B. To treat pain, fever and inflammation ✓

C. To aid in clotting of blood

D. To ease indigestion and heartburn

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Q75 Part A

A drum of mass 'm' kg was rolled down a ramp. At the bottom of the ramp its kinetic energy was 10 kJ and velocity was 20 m/s. With what velocity (in m/s) was it pushed down the ramp if its initial kinetic energy was 625 J?

A. 7.5

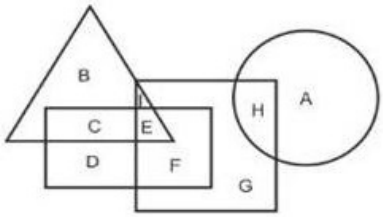
B. 10

C. 2.5

D. 5 ✓

Q76 Part A

In the following figure, the triangle represents boxers, the square represents priests, the circle represents British and the rectangle represents men. Which set of letters represents men who are either boxers or priests?



A. CEI

B. EFH

C. CEF ✓

D. FGH

Q77 Part A

Find the missing number in the given series.

$-3.4, -2.7, -2, -1.3, -0.6, ?$

A. 0.2

B. 0

C. 0.1 ✓

D. 0.3

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Q78 Part A

The specific latent heat of fusion of lead is 23 Jg^{-1}. Find the mass of a piece of lead if it releases 2116 J of heat when it freezes at its freezing point of 327 °C.

A. 62

B. 460

C. 92 ✓

D. 600

Q79 Part A

The electric _____ between two points in an electric circuit carrying some current is the work done to move a unit charge from one point to the other.

A. current

B. charge

C. resistance

D. potential difference ✓

Q80 Part A

Choose the figure that is different from the rest.

A.

W	L	G
C	I	D
F	H	E

B.

E	C	D
F	G	W
H	L	I

C. ✓

I	L	C
F	H	E
D	M	G

D.

L	F	D
C	W	E
G	I	H

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Q81 Part A

What is the area (in cm^2) of a rhombus if the lengths of its diagonals are 18 cm and 14 cm?

A. 126 ✓

B. 63

C. 504

D. 252

Q82 Part A

The ratio of the shorter side of an A4 sheet to the longer side of an A3 sheet is _____.

A. 1 : 1

B. $1 : \sqrt{2}$

C. 1 : 2 ✓

D. 1 : 4

Q83 Part A

$(0.1 \times 0.1 \times 0.1 + 0.04 \times 0.04 \times 0.04) \div (0.2 \times 0.2 \times 0.2 + 0.08 \times 0.08 \times 0.08) =$ _____.

A. 0.025

B. 0.125 ✓

C. 0.02

D. 0.08

Q84 Part A

Watt/steradian is the unit of _____.

A. radiant intensity ✓

B. electric conductance

C. permeability

D. permittivity

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Q85 Part A

$12 - 20\%$ of $(42 \times 5 \div 15 - 18 \times 10 \div 15 + 8) = ____$

A. 8

B. 10 ✓

C. 12

D. 6

Q86 Part A

5 years ago, father's age was 8 times Rohan's age. 5 years hence, the ratio of father's age to Rohan's age will be 10 : 3. What is Rohan's present age?

A. 12 years

B. 10 years ✓

C. 15 years

D. 8 years

Q87 Part A

The ideals of Liberty, Equality and Fraternity enshrined in the Constitution of India are borrowed from the constitution of _____.

A. France ✓

B. Japan

C. Unites States of America

D. Soviet Union

Q88 Part A

_____ was discovered by the Scottish physician Daniel Rutherford in 1772.

A. Chlorine

B. Helium

C. Nitrogen ✓

D. Hydrogen

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Q89 Part A

Choose the set of letters that is different from the rest.

A. TQN ✓

B. DGJ

C. EHK

D. NQT

Q90 Part A

What is the difference between the compound interests on a sum of ₹ 10,000 for 1 year at 10% per annum, when compounded yearly and half-yearly?

A. ₹ 5

B. ₹ 10

C. ₹ 50

D. ₹ 25 ✓

Q91 Part A

Coffee, spinach, onion and tea in our diet mostly provide us with which of the following elements as food?

A. Chloride

B. Sodium

C. Iodine

D. Fluoride ✓

Q92 Part A

Hawa Mahal is a palace in _____.

A. Udaipur

B. Bikaner

C. Jaipur ✓

D. Jodhpur

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Q93 Part A

Siemens is the unit of _____.

A. electric conductance ✓

B. watt per steradian

C. permeability

D. permittivity

Q94 Part A

_____ affects the atoms in living cells and thereby damages their genetic material (DNA).

A. Chlorinated water

B. Benzene vapours

C. Ionising radiation ✓

D. Chloroform

Q95 Part A

In a certain code language, '+' represents '×', '÷' represents '+', '−' represents '÷' and '×' represents '−'. Find out the answer to the following question considering that language as base.

$9 \times 3 \div 4 + 10 - 8 = ?$

A. 30

B. 11 ✓

C. 13

D. 12

Q96 Part A

Two resistors of R Ω and 20 Ω are connected in parallel to get an effective resistance of 15 Ω. Find R.

A. 30

B. 60 ✓

C. 40

D. 50

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Q97 Part A

The weights of 3 boxes are 4, 5 & 11 kilograms. Which of the following CANNOT be the total weight, in kilograms, of any combination of these boxes?

A. 17 ✓

B. 20

C. 15

D. 16

Q98 Part A

Classical musician TR Mahalingam is associated with which musical instrument?

A. Santoor

B. Flute ✓

C. Tabla

D. Mridangam

Q99 Part A

Pipe A can fill a tank in X hours. Pipe B can empty it in 15 hours. If both the pipes are opened together, then the tank will be filled in 7 hours and 30 minutes. Find X.

A. 10

B. 5 ✓

C. 9

D. 8

Q100 Part A

A man willed 2/7th of his wealth to his wife. 1/3rd of the remaining wealth to his son, and the rest was divided equally between the three daughters. If each daughter gets 2/3rd of the son's share and each of the three daughters gets ₹ 2,00,000, then what was the man's wealth?

A. ₹ 8,60,000

B. ₹ 12,60,000 ✓

C. ₹ 15,75,000

D. ₹ 10,50,000

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Q101 Part B (Electronics Mechanic)

Which of the following is NOT a function of the LED Driver?

A. Preventing damage to LEDs by Regulating the forward voltage (V_F)

B. Delivering a constant current to the LED

C. Preventing damage against EMI ✓

D. Avoiding thermal runaway

Q102 Part B (Electronics Mechanic)

If a JK FF toggles more than once during one clock cycle, it is called _____.

A. Pinging

B. Bouncing

C. Racing ✓

D. Spiking

Q103 Part B (Electronics Mechanic)

For currents as high as 2,000 Amps, which of the following types of fuses is the best choice?

A. LRC Fuse

B. HRC Fuse ✓

C. Nichrome Wire Fuse

D. Glass Cartridge Fuse

Q104 Part B (Electronics Mechanic)

Identify the main feature of power amplifiers from the options given below.

A. They have voltage amplifiers in the preceding stage. ✓

B. Their output impedance is high.

C. They cannot be operated without transformers.

D. Their output voltage is high.

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Q105 Part B (Electronics Mechanic)

Refractive Index of the medium is the ratio of _____.

A. Velocity of light in the vacuum to the velocity of light in the medium ✓

B. Velocity of light in the water to the velocity of light in the vacuum

C. Velocity of light in water to the velocity of light in air

D. Velocity of light in the medium to the Velocity of light in the vacuum

Q106 Part B (Electronics Mechanic)

Which one of the following circuits allows control of the SMPS output?

A. LC filter circuit

B. LCL filter circuit

C. PWM circuit ✓

D. EMI Filter circuit

Q107 Part B (Electronics Mechanic)

Why is the transformer of an SMPS smaller in size when compared to a transformer in a Linear Power Supply of similar rating?

A. Because of smaller currents

B. Because of lower PF

C. Because of HF operation ✓

D. Because of higher efficiency

Q108 Part B (Electronics Mechanic)

Which one of the following can be used to test the characteristics of an OFC?

A. DTDR (Digital Time Domain Reflectometer)

B. OTDR (Optical Time Domain Reflectometer) ✓

C. OFCM (Optical Fiber Communication Module)

D. OTMM (Optical Transceiver Monitoring Module)

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Q109 Part B (Electronics Mechanic)

What is the ratio of RMS Value to the Average Value is known as?

- A. Form factor ✓
- B. Effective value
- C. Peak factor
- D. Maximum value

Q110 Part B (Electronics Mechanic)

Which one of the gates mentioned below works as 'parity checker'?

- A. OR
- B. Ex-OR ✓
- C. AND
- D. NAND

Q111 Part B (Electronics Mechanic)

When the LED lights need a range of voltages to operate, which of the following drivers is best suited for the job?

- A. Constant Current ✓
- B. Constant Frequency
- C. Constant Voltage
- D. Constant Impedance

Q112 Part B (Electronics Mechanic)

Online UPS requires

- A. Only inverter
- B. Only battery
- C. Both rectifier and inverter ✓
- D. Only rectifier

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Q113 Part B (Electronics Mechanic)

In mobile phones, when a user puts the phone to his / her ears, the screen goes off. Which is the sensor used for this?

A. Motion sensor

B. Vibration sensor

C. Temperature sensor

D. Proximity sensor ✓

Q114 Part B (Electronics Mechanic)

What is the length of the antenna needed to a signal of 500 KHz frequency?

A. 1 Km

B. 6 Km

C. 600 m ✓

D. 100 m

Q115 Part B (Electronics Mechanic)

What is the purpose of using bypass diodes in the series connected solar panels?

A. Protection of shaded cells ✓

B. Increasing the current through shaded cells

C. To redirect light for shaded cells

D. To increase the resistance of shaded cells

Q116 Part B (Electronics Mechanic)

The number of input lines in a common BCD to seven segment decoder is _____.

A. 4 ✓

B. 16

C. 8

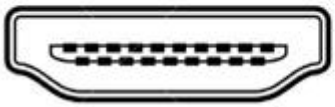
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Q117 Part B (Electronics Mechanic) HINDI - no English version saved

Identify the port shown in the image below.



A. FireWire

B. DVI

C. HDMI ✓

D. MIDI

Q118 Part B (Electronics Mechanic)

Based on which principle does a MC meter work?

A. Faraday's Current law

B. Faraday's Voltage law ✓

C. Ohm's law

D. Maxwell's law

Q119 Part B (Electronics Mechanic)

In the full-wave Rectifier, relation between peak value and rms value is:

A. $V_p = \sqrt{3}V_{rms}$

B. $V_p = \sqrt{4}V_{rms}$

C. $V_p = \sqrt{1.2}V_{rms}$

D. $V_p = \sqrt{2}V_{rms}$ ✓

Q120 Part B (Electronics Mechanic)

Which type of proximity sensor is not suitable for detecting 'Glass Bottles'?

A. Inductive type ✓

B. Photoelectric type

C. Capacitive type

D. Ultrasonic type

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Q121 Part B (Electronics Mechanic)

The emitter of which of the below mentioned transistors has electrons as the majority carriers?

A. N Channel

B. PNP

C. PNPN

D. NPN ✓

Q122 Part B (Electronics Mechanic)

In an Op Amp integrator circuit, what is done to limit the gain at 'Low Frequencies'?

A. A large resistor is connected across the feedback capacitor. ✓

B. A large capacitor is connected across the output.

C. A large resistor is connected in series with the input.

D. A small capacitor is connected in series with the input.

Q123 Part B (Electronics Mechanic)

Three capacitors each of 1μ F, 2μ F and 3μ F are connected in series. Identify the statement which holds TRUE for this combination.

A. The voltage across each capacitor is same.

B. Each capacitor stores a different charge.

C. The charge stored by each capacitor is same. ✓

D. Current flowing through each capacitor is different.

Q124 Part B (Electronics Mechanic)

Which frequency range is used for TV?

A. HF

B. UHF ✓

C. VLF

D. ULF

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Q125 Part B (Electronics Mechanic)

180 Coulombs of charge passes in a given time "t" through a wire of 1 ohm when connected to a 3 V DC supply. Identify the value of "t" from the options given.

A. 1 minute ✓

B. 1.5 minutes

C. 2 minutes

D. 0.5 minutes

Q126 Part B (Electronics Mechanic)

In computers, some area in the memory is reserved for high speed operations and storing frequently used instructions. What is the name of this type of memory?

A. SRAM

B. Cache ✓

C. Northbridge

D. Flash

Q127 Part B (Electronics Mechanic)

What are the logic levels in case of TTL logic using +5V as V_{CC}?

A. − 0.1 to 0.6 V for logic 0 and 1.7 V to V_{CC} for logic 1

B. 0 to 0.3 V for logic 0 and 0 V to V_{CC} for logic 1

C. − 0.3 to 0.3 V for logic 0 and 2.8 V to V_{CC} for logic 1

D. 0 to 0.8 V for logic 0 and 2 V to V_{CC} for logic 1 ✓

Q128 Part B (Electronics Mechanic)

FET is a _____.

A. Voltage controlled device ✓

B. Power controlled device

C. Current controlled device

D. Current and voltage controlled device

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Q129 Part B (Electronics Mechanic)

Which system allows the entire bandwidth to be available to each user at the same time?

A. GSM

B. CSMA

C. FDMA

D. CDMA ✓

Q130 Part B (Electronics Mechanic)

Astable multivibrator operating at 100 Hz has a discharge time of 2 ms. Find the duty cycle of the circuit

A. 50 %

B. 20 % ✓

C. 30 %

D. 10 %

Q131 Part B (Electronics Mechanic)

Which one of the following can be used as a photo detector in Fiber Optic Communication?

A. Tunnel diode

B. PIN Diode ✓

C. LED

D. LASER Diode

Q132 Part B (Electronics Mechanic)

The deflecting torque in a Moving-Iron meter is _____.

A. proportional to the square of the current ✓

B. inversely proportional to the current

C. inversely proportional to square of the current

D. proportional to the square of the voltage

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Q133 Part B (Electronics Mechanic)

The Octal equivalent of the hexadecimal number 100 is _____.

A. 200

B. 600

C. 300

D. 400 ✓

Q134 Part B (Electronics Mechanic)

The number of Flip Flops required for constructing a MOD 12 counter is _____.

A. 5

B. 6

C. 4 ✓

D. 3

Q135 Part B (Electronics Mechanic)

Push-Pull amplifiers are _____.

A. Class A amplifiers

B. Class B amplifiers ✓

C. Class AB amplifiers

D. Class C amplifiers

Q136 Part B (Electronics Mechanic)

The carrier of an AM signal has a power of 1,000 Watts. If the percentage of modulation is 80, what is the power in the upper sideband?

A. 160 Watts ✓

B. 640 Watts

C. 800 Watts

D. 320 Watts

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Q137 Part B (Electronics Mechanic)

The IC 74LS138 is a _____.

A. 8 bit subtractor

B. 8 line demultiplexer ✓

C. 8 bit adder

D. 8 line multiplexer

Q138 Part B (Electronics Mechanic)

If two 'equal' resistances are connected in parallel configuration, then the resultant resistance will be:

A. Half of the resistance value ✓

B. Multiplication of both the resistances

C. Double of the resistance value

D. Zero

Q139 Part B (Electronics Mechanic)

What is the peak to peak value of a sine waveform whose average value is 12.74 volts?

A. 30 V

B. 10 V

C. 40 V ✓

D. 20 V

Q140 Part B (Electronics Mechanic)

By using the AC coupling mode in a CRO _____.

A. any signal cannot be viewed on the display.

B. both AC and DC signals can be viewed on the display.

C. only AC signal can be viewed on the display. ✓

D. only DC signal can be viewed on the display.

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Q141 Part B (Electronics Mechanic)

In which frequency band does a 2GHz signal lie?

A. EHF

B. VHF

C. HF

D. UHF ✓

Q142 Part B (Electronics Mechanic)

Identify the frequency of the crystal used for outgoing calls in mobile phones.

A. 5.5 MHz

B. 99 MHz

C. 108 MHz

D. 26 MHz ✓

Q143 Part B (Electronics Mechanic)

When a Star Delta Starter is used with 3-phase squirrel cage motors, in which sequence is the connection made?

A. First Star, then Delta modes ✓

B. First Delta, then Star modes

C. First Star, then Delta and again Star mode

D. First Delta, then Star and again Delta modes

Q144 Part B (Electronics Mechanic)

The present state of the output of an SR flip flop is HIGH. If both its inputs become LOW, what would be the new state of the output?

A. Toggling

B. LOW

C. Unpredictable

D. HIGH ✓

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Q145 Part B (Electronics Mechanic)

TRIAC is similar to _____.

A. two diodes connected in series back to back.

B. two SCR connected in parallel. ✓

C. two diodes connected in parallel.

D. two SCR connected in series back to back.

Q146 Part B (Electronics Mechanic)

The primary voltage of a transformer is 200 volts and the secondary voltage is 50 volts. If the number of turns in the secondary winding is 100, the number of turns in the primary is _____.

A. 100

B. 200

C. 400 ✓

D. 800

Q147 Part B (Electronics Mechanic)

Which of the following modulation techniques uses two carriers?

A. TDM

B. FSK

C. ASK

D. QAM ✓

Q148 Part B (Electronics Mechanic)

Identify the WRONG statement from the options given below.

A. CFLs are used for backlighting the LCD screen of LED TV. ✓

B. LEDs are used for backlighting the LCD screen of LED TV.

C. Both LCD and LED TVs use an LCD screen for display.

D. In LED TV, the LEDs can be placed on the edges too.

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Q149 Part B (Electronics Mechanic)

Which of the following rectifiers needs a 'center tapped transformer'?

A. Full Wave Bridge Rectifier

B. Full Wave two-diode Rectifier ✓

C. Half Wave Rectifier

D. Two-phase Full Wave Rectifier

Q150 Part B (Electronics Mechanic)

Optical Time Domain Reflectometer is used to measure:

A. Dispersion in optical fibre

B. Eye Pattern

C. Wavelength

D. Loss in optical communication ✓

Q151 Part B (Electronics Mechanic)

The principle of magnetic attraction and repulsion works in:

A. PMMC Instruments

B. CRO

C. Digital Multimeter

D. MI Instruments ✓

Q152 Part B (Electronics Mechanic)

Which is the device commonly used in domestic fan speed control circuits?

A. DIAC

B. SCR

C. TRIAC ✓

D. SCS

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Q153 Part B (Electronics Mechanic)

Which of the following statements is true for Bi Colour LEDs?

A. Two different colour LEDs are connected in inverse parallel ✓

B. A special dopant is used for producing two colours in one LED

C. Two different colour LEDs are connected in series in the reverse direction

D. Two different colour LEDs are connected in series in the same direction

Q154 Part B (Electronics Mechanic)

Proximity sensors are used to _____.

A. Measure distance

B. Detect non-magnetic but conductive materials ✓

C. Measure strain

D. Measure temperature

Q155 Part B (Electronics Mechanic)

Power loss in a transformer is known as the _____.

A. difference of voltage between the secondary and the primary coils.

B. difference of power between the primary and the secondary coils. ✓

C. difference of current between the secondary and the primary coils.

D. addition of power in the secondary and the primary coils.

Q156 Part B (Electronics Mechanic)

Ten cells, each of 2 volts emf and 1 ohm internal resistance are connected in series. What is the current flowing through a resistance of 10 ohms connected across this combination of cells?

A. 1 mA

B. 1 A ✓

C. 10 mA

D. 100 mA

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Q157 Part B (Electronics Mechanic)

In which type of network topology computers are connected to a centralised Hub/ switch

A. Ring Topology

B. Star Topology ✓

C. Mesh topology

D. Bus Topology

Q158 Part B (Electronics Mechanic)

Which among the following is NOT the function of an Operating System?

A. Memory Management

B. Device Management

C. Data Analysis ✓

D. File Management

Q159 Part B (Electronics Mechanic)

Which of the following is NOT a type of Optocoupler?

A. Photo TRIAC type

B. Photo Resistor type ✓

C. Photo SCR type

D. Photo Transistor type

Q160 Part B (Electronics Mechanic)

Which of the following is NOT a type of trigger in Digital Storage Oscilloscope?

A. Video ✓

B. Pulse Width

C. Edge

D. Level

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Q161 Part B (Electronics Mechanic)

A LCR meter is used to measure _____.

A. Current

B. Voltage

C. Power

D. Inductance ✓

Q162 Part B (Electronics Mechanic)

Which of the following is used with LED lamps to focus its entire lighting output in one direction?

A. Aluminum Channels

B. Aluminum Panels

C. Parabolized Aluminum Reflector ✓

D. Parabolized Aluminum Refractor

Q163 Part B (Electronics Mechanic)

_____ is used to describe the information about the hue and saturation of a colour.

A. Sharpness

B. Chrominance ✓

C. Luminance

D. Phosphorescence

Q164 Part B (Electronics Mechanic)

Identify the main reason why an Ammeter should have very low internal resistance.

A. It should not burn.

B. It should decrease the circuit resistance.

C. It should not affect the circuit resistance. ✓

D. It should provide damping.

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Q165 Part B (Electronics Mechanic)

What is the size of internal data memory in a 8051 microcontroller?

A. 2,048 bytes

B. 128 bytes ✓

C. 256 bytes

D. 1,024 bytes

Q166 Part B (Electronics Mechanic)

A PC consuming 100 Watts is to be operated on a UPS. The UPS uses a 12 Volts, 100 AH battery. Assuming unity PF, what is the backup time of this unit?

A. 8 hours

B. 12 hours ✓

C. 24 hours

D. 16 hours

Q167 Part B (Electronics Mechanic)

Which of the following connectors is used for telephone / modem interface?

A. RJ11 ✓

B. RJ45

C. RJ67

D. RJ32

Q168 Part B (Electronics Mechanic)

How many dual purpose ports are there in the 8051 microcontroller?

A. 3

B. 1

C. 4 ✓

D. 2

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Q169 Part B (Electronics Mechanic)

An Op Amp has a Gain Bandwidth Product of 1 MHz. At what frequency will the gain of this Op Amp be equal to unity? Identify from the options given below.

A. 1,000 KHz ✓

B. 10 MHz

C. 100 KHz

D. 10 KHz

Q170 Part B (Electronics Mechanic)

The hexadecimal equivalent of the decimal number 4096 is _____.

A. 1,000 ✓

B. F100

C. F00

D. 1F0

Q171 Part B (Electronics Mechanic)

Which one of the following instructions is used to "Move Immediate Data to Register" in 8051?

A. MOV R_n, direct

B. MOV direct, R_n

C. MOV A, R_n

D. MOV R_n, #data ✓

Q172 Part B (Electronics Mechanic)

Which one of the following sensors produces a voltage output upon sensing temperature?

A. RTD

B. Strain Gauge

C. Thermocouple ✓

D. Thermostat

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Q173 Part B (Electronics Mechanic)

In the voltage amplifier _____.

A. output voltage is lower than the input voltage.

B. output voltage is larger than the input voltage. ✓

C. output voltage is zero.

D. output voltage is equal to the input voltage.

Q174 Part B (Electronics Mechanic)

What is the typical frequency and type of modulation used in an IR Remote control for TV?

A. 108.1 KHz, FM

B. 98 KHZ, PM

C. 38 KHz, PCM ✓

D. 98.1 MHz, AM

Q175 Part B (Electronics Mechanic)

The synchronous speed of an induction motor is 1,000 RPM. Find the percentage slip if its actual rotation speed is 980 RPM?

A. 8

B. 2 ✓

C. 4

D. 20

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