RAILWAY RECRUITMENT BOARDS
रेलवे भर्ती बोर्ड

RRB ALP 2018 CBT-2 Electronics Mechanic

Assistant Loco Pilot & Technicians | CEN 01/2018 | CBT-2 | Trade: Electronics Mechanic

ENGLISH ANSWER KEY

Official Answer Key

Complete Paper · 21-01-2019

Questions	175
Marking	+1 correct / -1/3 wrong
Duration	Part A 90 min · Part B 60 min
Sections	Part A 100 · Part B (Electronics Mechanic) 75

Every paper is set out as the official RRB response sheet, typed from the saved paper, with the official answer key marked. No candidate details are included.

Short shifts: 21-01-2019 172 of 175 questions.

HOW TO USE THIS BOOK

1. Open the INDEX on the next page.
2. Click any row to jump straight to that date and shift.
3. The correct option is ticked in green; the other options are crossed in red.
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Compiled 02 November 2026

INDEX · Click any row to open that paper

RRB ALP 2018 CBT-2 Electronics Mechanic (English) · 1 shifts

DAY	DATE	SHIFT	TIME	PAGE
Day 1	**21-01-2019**	Shift 1	12:30 - 15:00	**3**

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Test Date	21/01/2019
Test Time	12:30 PM - 3:00 PM
Subject	ALP CBT-2

*** 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.

Section : **Part A**

Q.1 Find the volume (in cm^3) of a piece of metal of density 5000 kg/m^3 and which weighs 10.8 N. (Use $g = 10m/s^2$)

Ans
- ✗ A. 21.6
- ✗ B. 540
- ✗ C. 54
- ✓ D. 216

Q.2 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?

Ans
- ✗ A. 3 km west
- ✗ B. 3 km east
- ✓ C. 9 km west
- ✗ D. 9 km east

Q.3 A/An _____ is a pointing and drawing device shaped like a pen. It is used on a touch screen.

Ans
- ✗ A. flag
- ✓ B. stylus
- ✗ C. index
- ✗ D. cursor

Q.4 The notation Ø7 means _____.

Ans
- ✗ A. depth of wall 7 units
- ✗ B. radius 7 units
- ✗ C. length of edge 7 units
- ✓ D. diameter 7 units

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Q.5 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?

Ans

✗ A. ₹ 54/kg

✓ B. ₹ 50/kg

✗ C. ₹ 48/kg

✗ D. ₹ 45/kg

Q.6 $\cot 30^\circ - \frac{1}{2} \times \operatorname{cosec} 60^\circ =$

Ans

✗ A. $\frac{\sqrt{2}}{3}$

✗ B. $\frac{2}{3}$

✓ C. $\frac{2}{\sqrt{3}}$

✗ D. $\frac{\sqrt{2}}{\sqrt{3}}$

Q.7 In the finals of Indian Premier League (IPL) in 2018, Chennai Super Kings played against _____.

Ans

✗ A. Royal Challengers Bangalore

✗ B. Kolkata Knight Riders

✗ C. Mumbai Indians

✓ D. Sun Risers Hyderabad

Q.8 $\sqrt{0.015625} \times \sqrt{0.0256} =$ _____.

Ans

✓ A. 0.02

✗ B. 0.002

✗ C. 0.004

✗ D. 0.04

Q.9 Which of the following is an example of a third class lever?

Ans

✗ A. Nut cracker

✓ B. Ice tongs

✗ C. Wheel barrow

✗ D. See-saw

Q.10 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

Ans

✗ A. ZYX

✓ B. YZX

✗ C. YXZ

✗ D. XZY

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Q.11 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?

Ans
- ✗ A. 76
- ✗ B. 60
- ✗ C. 72
- ✓ D. 66

Q.12 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:

Ans
- ✓ A. 9123
- ✗ B. 7583
- ✗ C. 3274
- ✗ D. 9283

Q.13 If $a + b = 9$ and $a^2 + b^2 = 53$, then find the value of ab.

Ans
- ✗ A. 18
- ✗ B. 8
- ✓ C. 14
- ✗ D. 20

Q.14 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)

Ans
- ✓ A. 12.1
- ✗ B. 0.03
- ✗ C. 0.06
- ✗ D. 6.1

Q.15 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)?

Ans
- ✗ A. 40
- ✓ B. 100
- ✗ C. 400
- ✗ D. 300

Q.16 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:

Ans
- ✗ A. 4% loss
- ✓ B. 8% loss
- ✗ C. 12% loss
- ✗ D. 10% loss

Q.17 A body of mass 60 kg weighs 222 N on Mars. What is the acceleration due to gravity (in m/s^2) on Mars?

Ans
- ✗ A. 13.32
- ✗ B. 4.9
- ✓ C. 3.7
- ✗ D. 19.8

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Q.18 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?

Ans
- ✗ A. 200 m/s
- ✗ B. 400 m/s
- ✗ C. 300 m/s
- ✓ D. 500 m/s

Q.19 _____ is the fibre remaining after the extraction of the sugar-bearing juice from sugarcane.

Ans
- ✗ A. Compost
- ✗ B. Forage
- ✓ C. Bagasse
- ✗ D. Cullet

Q.20 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?

Ans
- ✗ 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

Q.21 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.

Ans
- ✗ A. 30
- ✓ B. 20
- ✗ C. 26
- ✗ D. 24

Q.22 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

Ans
- ✓ A. bybyb
- ✗ B. bbyyc
- ✗ C. bbxyc
- ✗ D. bbyyb

Q.23 Which of the following substances has the highest density?

Ans
- ✗ A. Mercury
- ✓ B. Gold
- ✗ C. Iron
- ✗ D. Copper

Q.24 The mean of the numbers 1, 4, 9, X, 12, 14, 15 and 16 is 10. Find the mode.

Ans
- ✗ A. 11
- ✓ B. 9
- ✗ C. 12
- ✗ D. 10

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Q.25 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 : ?

Ans
- ✗ A. School
- ✗ B. Classroom
- ✗ C. Student
- ✓ D. Principal

Q.26 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.

Ans
- ✗ A. 1
- ✗ B. 4
- ✓ C. 2
- ✗ D. 3

Q.27 A/An _____ is a special high-speed storage mechanism.

Ans
- ✓ A. cache
- ✗ B. board
- ✗ C. host
- ✗ D. interface

Q.28 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?

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

Q.29 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.

Ans
- ✗ A. 200 JK^{-1}
- ✗ B. 325 $Jkg^{-1}K^{-1}$
- ✓ C. 500 JK^{-1}
- ✗ D. 250 $Jkg^{-1}K^{-1}$

Q.30 A car of 500 kg mass has a kinetic energy of 64 kJ. Find its speed (in m/s).

Ans
- ✗ A. 32
- ✗ B. 48
- ✓ C. 16
- ✗ D. 64

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Q.31 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.

Ans

✗ A. Neither I nor II follows

✗ B. Only conclusion I follows

✓ C. Both I and II follow

✗ D. Only conclusion II follows

Q.33 Find the slope of the line given by the equation $4x + 6y = 9$.

Ans

✗ A. $\frac{-3}{2}$

✓ B. $\frac{-2}{3}$

✗ C. $\frac{2}{3}$

✗ D. $\frac{3}{2}$

Q.34 What is the angle between the hour hand and the minute hand at quarter to five?

Ans

✗ A. 147.5°

✗ B. 135.5°

✗ C. 115.5°

✓ D. 127.5°

Q.35 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: ?

Ans

✗ A. White

✓ B. Coir

✗ C. Seashore

✗ D. Fruit

Q.36 Who founded Project Nanhi Kali in 1996?

Ans

✗ A. Ratan Tata

✗ B. Narayana Murthy

✓ C. Anand Mahindra

✗ D. Azim Premji

Q.37 What is the binary equivalent of decimal 413?

Ans

✓ A. 110011101

✗ B. 111001001

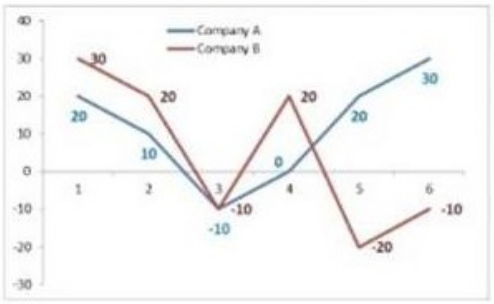
✗ C. 110110111

✗ D. 100111111

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Q.38 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:



Ans

✔ A. $3:7$

✘ B. $7:8$

✘ C. $8:7$

✘ D. $7:3$

Q.39 -200° Celsius = _____ Fahrenheit

Ans

✘ A. -73°

✘ B. 73°

✘ C. -392°

✔ D. -328°

Q.40 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.

Ans

✔ 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

Q.41 _____ is the distance from the pitch circle to the bottom of the tooth space in a gear.

Ans

✘ A. Hub

✘ B. Bore

✘ C. Addendum

✔ D. Dedendum

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Q.42 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.

Ans
- ✗ 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

Q.44 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?

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

Q.45 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?

Ans
- ✓ A. ₹ 56,000
- ✗ B. ₹ 48,000
- ✗ C. ₹ 72,000
- ✗ D. ₹ 64,000

Q.46 The difference between the two binary numbers 10010000 and 1111001 is:

Ans
- ✗ A. 11101
- ✗ B. 10011
- ✓ C. 10111
- ✗ D. 11011

Q.47 A/an _____ is an inclined edge that is NOT at right angle to the joining surface.

Ans
- ✗ A. ogee
- ✗ B. dupont
- ✗ C. bullnose
- ✓ D. bevel

Q.48 If the curved surface area of a cone of radius 14 cm is 2200 cm^2, find its height (in cm).

Ans
- ✗ A. 50
- ✓ B. 48
- ✗ C. 49
- ✗ D. 56

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Q.49 Which organisation comprises of two institutions: The International Bank for Reconstruction and Development (IBRD) and The International Development Association (IDA)?

Ans

✗ A. The International Monetary Fund

✗ B. International Chamber of Commerce

✗ C. International Finance Corporation

✓ D. The World Bank

Q.50 Which of the following folk dances is from Punjab?

Ans

✗ A. Nati

✓ B. Giddha

✗ C. Lezim

✗ D. Bagurumba

Q.51 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.

Ans

✗ A. DBCA

✗ B. DBAC

✓ C. BDAC

✗ D. BDCA

Q.52 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.

Ans

✓ A. 43

✗ B. 15

✗ C. 25

✗ D. 48

Q.53 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.

Ans

✓ A. 25

✗ B. 32

✗ C. 8

✗ D. 15

Q.54 Consider that 5 # 11 = 4; 13 # 7 = 5; 10 # 22 = 8. Then what is the value of 10 # 2 =?

Ans

✗ A. 8

✗ B. 12

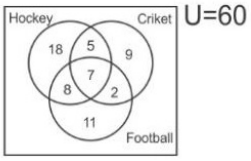
✓ C. 3

✗ D. 20

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Q.55 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?



Ans

✗ A. 8

✗ B. 7

✗ C. 51

✓ D. 15

Q.56 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.

Ans

✗ A. 2

✓ B. 0.5

✗ C. 0.2

✗ D. 5

Q.57 Which singer entered the Guinness World Records for the most single studio recordings?

Ans

✗ A. Mohammad Rafi

✗ B. Kishore Kumar

✗ C. Lata Mangeshkar

✓ D. Asha Bhosale

Q.58 If 25% of a = b, then b% of 160 is same as:

Ans

✗ A. 60% of a

✗ B. 80% of a

✗ C. 50% of a

✓ D. 40% of a

Q.59 A/an _____ circle is a circular centre line on a drawing containing the centres of holes about a common centre.

Ans

✓ A. bolt

✗ B. concentric

✗ C. peripheral

✗ D. axis

Q.60 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?

Ans

✓ A. nadzul

✗ B. gifod

✗ C. tudusi

✗ D. ludnor

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Q.61 Which of the following gases is NOT a major greenhouse gas that causes climate change?

Ans

✗ A. Carbon dioxide

✓ B. Nitrous oxide

✗ C. Methane

✗ D. Carbon monoxide

Q.62 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:

Ans

✗ A. 25

✗ B. 50

✗ C. 16

✓ D. 32

Q.63 Find the least common multiple of 48 and 54.

Ans

✗ A. 144

✓ B. 432

✗ C. 342

✗ D. 234

Q.64 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 $Jg^{-1}K^{-1}$.

Ans

✓ A. 60

✗ B. 67.5

✗ C. 42.5

✗ D. 120

Q.65 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?

Ans

✗ A. 1 : 40 pm

✓ B. 1 : 34 pm

✗ C. 1 : 36 pm

✗ D. 1 : 32 pm

Q.66 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?

Ans

✓ A. 9

✗ B. 12

✗ C. 6

✗ D. 15

Q.67 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.

Ans

✗ A. 10

✓ B. 5

✗ C. 2.5

✗ D. 7.5

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Q.68 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.

Ans

✗ A. Only conclusion I follows

✓ B. Neither I nor II follows

✗ C. Only conclusion II follows

✗ D. Both I and II follow

Q.69 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?

Ans

✗ A. 9

✗ B. 8

✓ C. 12

✗ D. 15

Q.70 Find the work done (in joules) in moving a charge of 1.6 coulombs across 0.8 V.

Ans

✗ A. 2

✗ B. 2.56

✗ C. 0.5

✓ D. 1.28

Q.71 Name the author of 'The Incredible Adventures of Professor Shonku'.

Ans

✗ A. Rahul Bose

✗ B. Rabindranath Tagore

✓ C. Satyajit Ray

✗ D. Ritwik Ghatak

Q.72 If $\frac{5x}{2} - \frac{5}{3}\left(\frac{3}{2} + \frac{4x}{3}\right) = \frac{5}{6}$ then the value of x is:

Ans

✗ A. 6

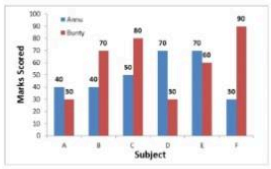
✗ B. 3

✗ C. 4

✓ D. 12

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Q.73 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?



Ans

✗ A. 15%

✗ B. 10%

✗ C. 12.25%

✓ D. 16.67%

Q.74 A common drug in a first aid box is Ibuprofen. When should Ibuprofen be taken?

Ans

✗ 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

Q.75 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?

Ans

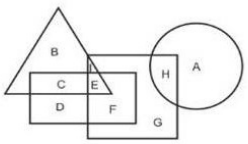
✗ A. 7.5

✗ B. 10

✗ C. 2.5

✓ D. 5

Q.76 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?



Ans

✗ A. CEI

✗ B. EFH

✓ C. CEF

✗ D. FGH

Q.77 Find the missing number in the given series.

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

Ans

✗ A. 0.2

✗ B. 0

✓ C. 0.1

✗ D. 0.3

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Q.78 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.

Ans

✗ A. 62

✗ B. 460

✓ C. 92

✗ D. 600

Q.79 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.

Ans

✗ A. current

✗ B. charge

✗ C. resistance

✓ D. potential difference

Q.80 Choose the figure that is different from the rest.

Ans

✗ 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

Q.81 What is the area (in cm^2) of a rhombus if the lengths of its diagonals are 18 cm and 14 cm?

Ans

✓ A. 126

✗ B. 63

✗ C. 504

✗ D. 252

Q.82 The ratio of the shorter side of an A4 sheet to the longer side of an A3 sheet is _____.

Ans

✗ A. 1 : 1

✗ B. $1 : \sqrt{2}$

✓ C. 1 : 2

✗ D. 1 : 4

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Q.83 $(0.1 \times 0.1 \times 0.1 + 0.04 \times 0.04 \times 0.04) \div (0.2 \times 0.2 \times 0.2 + 0.08 \times 0.08 \times 0.08) =$ _____.

Ans

✗ A. 0.025

✓ B. 0.125

✗ C. 0.02

✗ D. 0.08

Q.84 Watt/steradian is the unit of _____.

Ans

✓ A. radiant intensity

✗ B. electric conductance

✗ C. permeability

✗ D. permittivity

Q.85 $12 - 20\%$ of $(42 \times 5 \div 15 - 18 \times 10 \div 15 + 8) =$ ____

Ans

✗ A. 8

✓ B. 10

✗ C. 12

✗ D. 6

Q.86 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?

Ans

✗ A. 12 years

✓ B. 10 years

✗ C. 15 years

✗ D. 8 years

Q.87 The ideals of Liberty, Equality and Fraternity enshrined in the Constitution of India are borrowed from the constitution of _____.

Ans

✓ A. France

✗ B. Japan

✗ C. Unites States of America

✗ D. Soviet Union

Q.88 _____ was discovered by the Scottish physician Daniel Rutherford in 1772.

Ans

✗ A. Chlorine

✗ B. Helium

✓ C. Nitrogen

✗ D. Hydrogen

Q.89 Choose the set of letters that is different from the rest.

Ans

✓ A. TQN

✗ B. DGJ

✗ C. EHK

✗ D. NQT

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Q.90 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?

Ans
- ✗ A. ₹ 5
- ✗ B. ₹ 10
- ✗ C. ₹ 50
- ✓ D. ₹ 25

Q.91 Coffee, spinach, onion and tea in our diet mostly provide us with which of the following elements as food?

Ans
- ✗ A. Chloride
- ✗ B. Sodium
- ✗ C. Iodine
- ✓ D. Fluoride

Q.92 Hawa Mahal is a palace in _____.

Ans
- ✗ A. Udaipur
- ✗ B. Bikaner
- ✓ C. Jaipur
- ✗ D. Jodhpur

Q.93 Siemens is the unit of _____.

Ans
- ✓ A. electric conductance
- ✗ B. watt per steradian
- ✗ C. permeability
- ✗ D. permittivity

Q.94 _____ affects the atoms in living cells and thereby damages their genetic material (DNA).

Ans
- ✗ A. Chlorinated water
- ✗ B. Benzene vapours
- ✓ C. Ionising radiation
- ✗ D. Chloroform

Q.95 In a certain code language, '+' represents '×', '÷' represents '+', '−' represents '÷' and '×' represents '−'. Find out the answer to the following question considering that language as base.

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

Ans
- ✗ A. 30
- ✓ B. 11
- ✗ C. 13
- ✗ D. 12

Q.96 Two resistors of R Ω and 20 Ω are connected in parallel to get an effective resistance of 15 Ω. Find R.

Ans
- ✗ A. 30
- ✓ B. 60
- ✗ C. 40
- ✗ D. 50

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Q.97 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?

Ans
- ✔ A. 17
- ✘ B. 20
- ✘ C. 15
- ✘ D. 16

Q.98 Classical musician TR Mahalingam is associated with which musical instrument?

Ans
- ✘ A. Santoor
- ✔ B. Flute
- ✘ C. Tabla
- ✘ D. Mridangam

Q.99 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.

Ans
- ✘ A. 10
- ✔ B. 5
- ✘ C. 9
- ✘ D. 8

Q.100 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?

Ans
- ✘ A. ₹ 8,60,000
- ✔ B. ₹ 12,60,000
- ✘ C. ₹ 15,75,000
- ✘ D. ₹ 10,50,000

Section : **Part B**

Q.101 Which of the following is NOT a function of the LED Driver?

Ans
- ✘ 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

Q.102 If a JK FF toggles more than once during one clock cycle, it is called _____.

Ans
- ✘ A. Pinging
- ✘ B. Bouncing
- ✔ C. Racing
- ✘ D. Spiking

Q.103 For currents as high as 2,000 Amps, which of the following types of fuses is the best choice?

Ans
- ✘ A. LRC Fuse
- ✔ B. HRC Fuse
- ✘ C. Nichrome Wire Fuse
- ✘ D. Glass Cartridge Fuse

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Q.104 Identify the main feature of power amplifiers from the options given below.

Ans

✔ 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.

Q.105 Refractive Index of the medium is the ratio of _____.

Ans

✔ 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

Q.106 Which one of the following circuits allows control of the SMPS output?

Ans

✘ A. LC filter circuit

✘ B. LCL filter circuit

✔ C. PWM circuit

✘ D. EMI Filter circuit

Q.107 Why is the transformer of an SMPS smaller in size when compared to a transformer in a Linear Power Supply of similar rating?

Ans

✘ A. Because of smaller currents

✘ B. Because of lower PF

✔ C. Because of HF operation

✘ D. Because of higher efficiency

Q.108 Which one of the following can be used to test the characteristics of an OFC?

Ans

✘ A. DTDR (Digital Time Domain Reflectometer)

✔ B. OTDR (Optical Time Domain Reflectometer)

✘ C. OFCM (Optical Fiber Communication Module)

✘ D. OTMM (Optical Transceiver Monitoring Module)

Q.109 What is the ratio of RMS Value to the Average Value is known as?

Ans

✔ A. Form factor

✘ B. Effective value

✘ C. Peak factor

✘ D. Maximum value

Q.110 Which one of the gates mentioned below works as 'parity checker'?

Ans

✘ A. OR

✔ B. Ex-OR

✘ C. AND

✘ D. NAND

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Q.111 When the LED lights need a range of voltages to operate, which of the following drivers is best suited for the job?

Ans

✔ A. Constant Current

✘ B. Constant Frequency

✘ C. Constant Voltage

✘ D. Constant Impedance

Q.112 Online UPS requires

Ans

✘ A. Only inverter

✘ B. Only battery

✔ C. Both rectifier and inverter

✘ D. Only rectifier

Q.113 In mobile phones, when a user puts the phone to his / her ears, the screen goes off. Which is the sensor used for this?

Ans

✘ A. Motion sensor

✘ B. Vibration sensor

✘ C. Temperature sensor

✔ D. Proximity sensor

Q.114 What is the length of the antenna needed to a signal of 500 KHz frequency?

Ans

✘ A. 1 Km

✘ B. 6 Km

✔ C. 600 m

✘ D. 100 m

Q.115 What is the purpose of using bypass diodes in the series connected solar panels?

Ans

✔ 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

Q.116 The number of input lines in a common BCD to seven segment decoder is _____.

Ans

✔ A. 4

✘ B. 16

✘ C. 8

✘ D. 2

Q.118 Based on which principle does a MC meter work?

Ans

✘ A. Faraday's Current law

✔ B. Faraday's Voltage law

✘ C. Ohm's law

✘ D. Maxwell's law

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Q.119 In the full-wave Rectifier, relation between peak value and rms value is:

Ans

✗ A. $V_p = \sqrt{3}V_{rms}$

✗ B. $V_p = \sqrt{4}V_{rms}$

✗ C. $V_p = \sqrt{1.2}V_{rms}$

✓ D. $V_p = \sqrt{2}V_{rms}$

Q.120 Which type of proximity sensor is not suitable for detecting 'Glass Bottles'?

Ans

✓ A. Inductive type

✗ B. Photoelectric type

✗ C. Capacitive type

✗ D. Ultrasonic type

Q.121 The emitter of which of the below mentioned transistors has electrons as the majority carriers?

Ans

✗ A. N Channel

✗ B. PNP

✗ C. PNPN

✓ D. NPN

Q.122 In an Op Amp integrator circuit, what is done to limit the gain at 'Low Frequencies'?

Ans

✓ 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.

Q.123 Three capacitors each of 1μ F, 2μ F and 3μ F are connected in series. Identify the statement which holds TRUE for this combination.

Ans

✗ 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.

Q.124 Which frequency range is used for TV?

Ans

✗ A. HF

✓ B. UHF

✗ C. VLF

✗ D. ULF

Q.125 180 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.

Ans

✓ A. 1 minute

✗ B. 1.5 minutes

✗ C. 2 minutes

✗ D. 0.5 minutes

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Q.126 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?

Ans

✗ A. SRAM

✓ B. Cache

✗ C. Northbridge

✗ D. Flash

Q.127 What are the logic levels in case of TTL logic using +5V as V_{CC}?

Ans

✗ 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

Q.128 FET is a _____.

Ans

✓ A. Voltage controlled device

✗ B. Power controlled device

✗ C. Current controlled device

✗ D. Current and voltage controlled device

Q.129 Which system allows the entire bandwidth to be available to each user at the same time?

Ans

✗ A. GSM

✗ B. CSMA

✗ C. FDMA

✓ D. CDMA

Q.130 Astable multivibrator operating at 100 Hz has a discharge time of 2 ms. Find the duty cycle of the circuit

Ans

✗ A. 50 %

✓ B. 20 %

✗ C. 30 %

✗ D. 10 %

Q.131 Which one of the following can be used as a photo detector in Fiber Optic Communication?

Ans

✗ A. Tunnel diode

✓ B. PIN Diode

✗ C. LED

✗ D. LASER Diode

Q.132 The deflecting torque in a Moving-Iron meter is _____.

Ans

✓ 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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Q.133 The Octal equivalent of the hexadecimal number 100 is _____.

Ans

✗ A. 200

✗ B. 600

✗ C. 300

✓ D. 400

Q.134 The number of Flip Flops required for constructing a MOD 12 counter is _____.

Ans

✗ A. 5

✗ B. 6

✓ C. 4

✗ D. 3

Q.135 Push-Pull amplifiers are _____.

Ans

✗ A. Class A amplifiers

✓ B. Class B amplifiers

✗ C. Class AB amplifiers

✗ D. Class C amplifiers

Q.136 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?

Ans

✓ A. 160 Watts

✗ B. 640 Watts

✗ C. 800 Watts

✗ D. 320 Watts

Q.137 The IC 74LS138 is a _____.

Ans

✗ A. 8 bit subtractor

✓ B. 8 line demultiplexer

✗ C. 8 bit adder

✗ D. 8 line multiplexer

Q.138 If two 'equal' resistances are connected in parallel configuration, then the resultant resistance will be:

Ans

✓ A. Half of the resistance value

✗ B. Multiplication of both the resistances

✗ C. Double of the resistance value

✗ D. Zero

Q.139 What is the peak to peak value of a sine waveform whose average value is 12.74 volts?

Ans

✗ A. 30 V

✗ B. 10 V

✓ C. 40 V

✗ D. 20 V

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Q.140 By using the AC coupling mode in a CRO _____.

Ans

✗ 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.

Q.141 In which frequency band does a 2GHz signal lie?

Ans

✗ A. EHF

✗ B. VHF

✗ C. HF

✓ D. UHF

Q.142 Identify the frequency of the crystal used for outgoing calls in mobile phones.

Ans

✗ A. 5.5 MHz

✗ B. 99 MHz

✗ C. 108 MHz

✓ D. 26 MHz

Q.143 When a Star Delta Starter is used with 3-phase squirrel cage motors, in which sequence is the connection made?

Ans

✓ 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

Q.144 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?

Ans

✗ A. Toggling

✗ B. LOW

✗ C. Unpredictable

✓ D. HIGH

Q.145 TRIAC is similar to _____.

Ans

✗ 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.

Q.146 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 _____.

Ans

✗ A. 100

✗ B. 200

✓ C. 400

✗ D. 800

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Q.147 Which of the following modulation techniques uses two carriers?

Ans
- ✗ A. TDM
- ✗ B. FSK
- ✗ C. ASK
- ✓ D. QAM

Q.148 Identify the WRONG statement from the options given below.

Ans
- ✓ 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.

Q.149 Which of the following rectifiers needs a 'center tapped transformer'?

Ans
- ✗ A. Full Wave Bridge Rectifier
- ✓ B. Full Wave two-diode Rectifier
- ✗ C. Half Wave Rectifier
- ✗ D. Two-phase Full Wave Rectifier

Q.150 Optical Time Domain Reflectometer is used to measure:

Ans
- ✗ A. Dispersion in optical fibre
- ✗ B. Eye Pattern
- ✗ C. Wavelength
- ✓ D. Loss in optical communication

Q.151 The principle of magnetic attraction and repulsion works in:

Ans
- ✗ A. PMMC Instruments
- ✗ B. CRO
- ✗ C. Digital Multimeter
- ✓ D. MI Instruments

Q.152 Which is the device commonly used in domestic fan speed control circuits?

Ans
- ✗ A. DIAC
- ✗ B. SCR
- ✓ C. TRIAC
- ✗ D. SCS

Q.153 Which of the following statements is true for Bi Colour LEDs?

Ans
- ✓ 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

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Q.154 Proximity sensors are used to _____.

Ans

✗ A. Measure distance

✓ B. Detect non-magnetic but conductive materials

✗ C. Measure strain

✗ D. Measure temperature

Q.155 Power loss in a transformer is known as the _____.

Ans

✗ 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.

Q.156 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?

Ans

✗ A. 1 mA

✓ B. 1 A

✗ C. 10 mA

✗ D. 100 mA

Q.157 In which type of network topology computers are connected to a centralised Hub/ switch

Ans

✗ A. Ring Topology

✓ B. Star Topology

✗ C. Mesh topology

✗ D. Bus Topology

Q.158 Which among the following is NOT the function of an Operating System?

Ans

✗ A. Memory Management

✗ B. Device Management

✓ C. Data Analysis

✗ D. File Management

Q.159 Which of the following is NOT a type of Optocoupler?

Ans

✗ A. Photo TRIAC type

✓ B. Photo Resistor type

✗ C. Photo SCR type

✗ D. Photo Transistor type

Q.160 Which of the following is NOT a type of trigger in Digital Storage Oscilloscope?

Ans

✓ A. Video

✗ B. Pulse Width

✗ C. Edge

✗ D. Level

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Q.161 A LCR meter is used to measure _____.

Ans

✗ A. Current

✗ B. Voltage

✗ C. Power

✓ D. Inductance

Q.162 Which of the following is used with LED lamps to focus its entire lighting output in one direction?

Ans

✗ A. Aluminum Channels

✗ B. Aluminum Panels

✓ C. Parabolized Aluminum Reflector

✗ D. Parabolized Aluminum Refractor

Q.163 _____ is used to describe the information about the hue and saturation of a colour.

Ans

✗ A. Sharpness

✓ B. Chrominance

✗ C. Luminance

✗ D. Phosphorescence

Q.164 Identify the main reason why an Ammeter should have very low internal resistance.

Ans

✗ 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.

Q.165 What is the size of internal data memory in a 8051 microcontroller?

Ans

✗ A. 2,048 bytes

✓ B. 128 bytes

✗ C. 256 bytes

✗ D. 1,024 bytes

Q.166 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?

Ans

✗ A. 8 hours

✓ B. 12 hours

✗ C. 24 hours

✗ D. 16 hours

Q.167 Which of the following connectors is used for telephone / modem interface?

Ans

✓ A. RJ11

✗ B. RJ45

✗ C. RJ67

✗ D. RJ32

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Q.168 How many dual purpose ports are there in the 8051 microcontroller?

Ans

✗ A. 3

✗ B. 1

✓ C. 4

✗ D. 2

Q.169 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.

Ans

✓ A. 1,000 KHz

✗ B. 10 MHz

✗ C. 100 KHz

✗ D. 10 KHz

Q.170 The hexadecimal equivalent of the decimal number 4096 is _____.

Ans

✓ A. 1,000

✗ B. F100

✗ C. F00

✗ D. 1F0

Q.171 Which one of the following instructions is used to "Move Immediate Data to Register" in 8051?

Ans

✗ A. MOV R_n, direct

✗ B. MOV direct, R_n

✗ C. MOV A, R_n

✓ D. MOV R_n, #data

Q.172 Which one of the following sensors produces a voltage output upon sensing temperature?

Ans

✗ A. RTD

✗ B. Strain Gauge

✓ C. Thermocouple

✗ D. Thermostat

Q.173 In the voltage amplifier _____.

Ans

✗ 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.

Q.174 What is the typical frequency and type of modulation used in an IR Remote control for TV?

Ans

✗ A. 108.1 KHz, FM

✗ B. 98 KHZ, PM

✓ C. 38 KHz, PCM

✗ D. 98.1 MHz, AM

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Q.175 The synchronous speed of an induction motor is 1,000 RPM. Find the percentage slip if its actual rotation speed is 980 RPM?

Ans

✗ A. 8

✓ B. 2

✗ C. 4

✗ D. 20

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