RRB ALP Instrument Mechanic 23 Jan 2019 Official Paper (Shift 1) (Previous Year Paper)

RRB Assistant Loco Pilot (ALP) • 2019 • 175 questions • 150 minutes • Answer key

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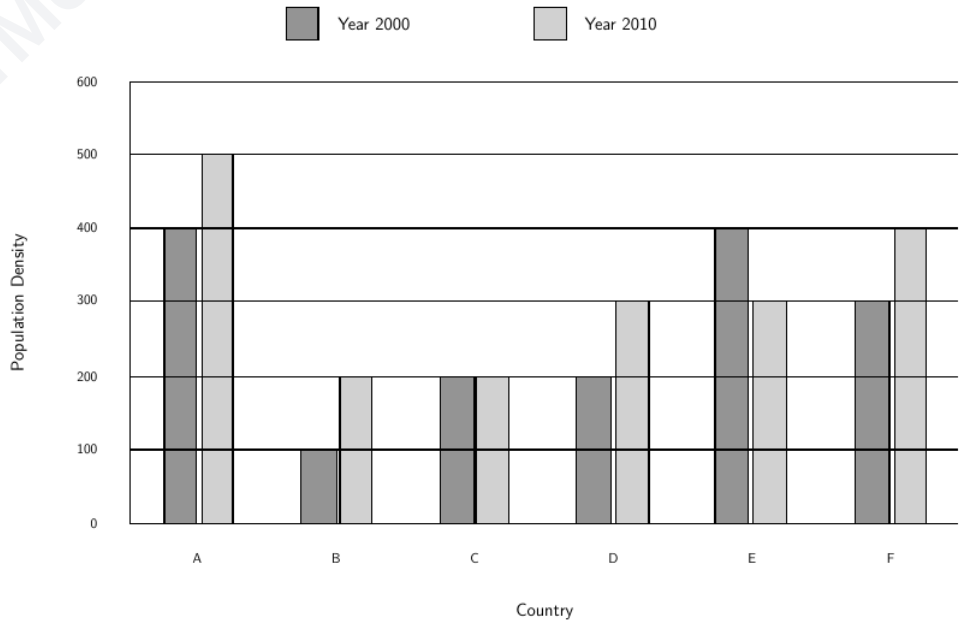
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PART A

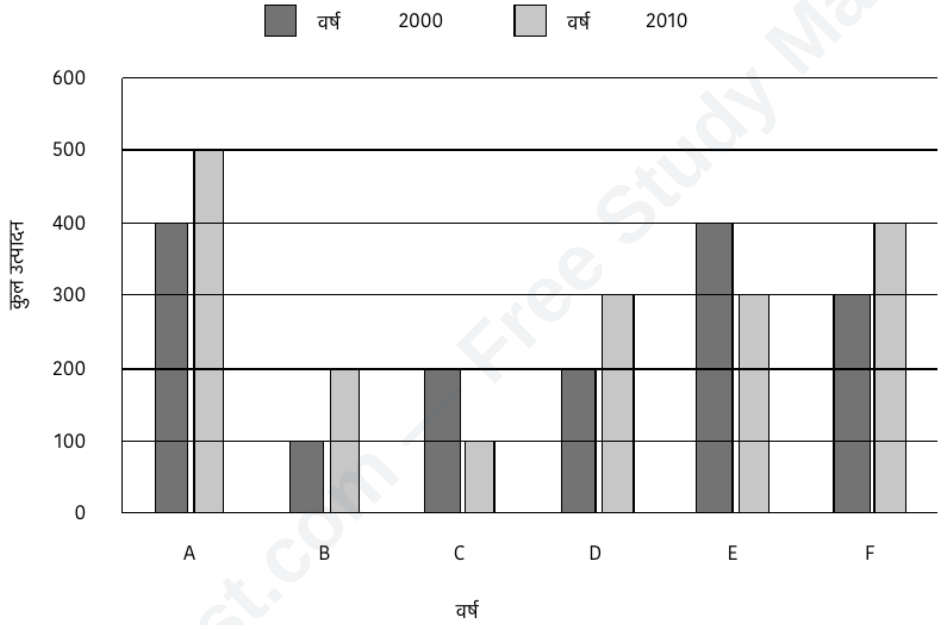
Q1. What is the diameter (in cm) of a sphere of surface area 1386 cm²?

(a) 14
(b) 21
(c) 10.5
(d) 24.5

Directions



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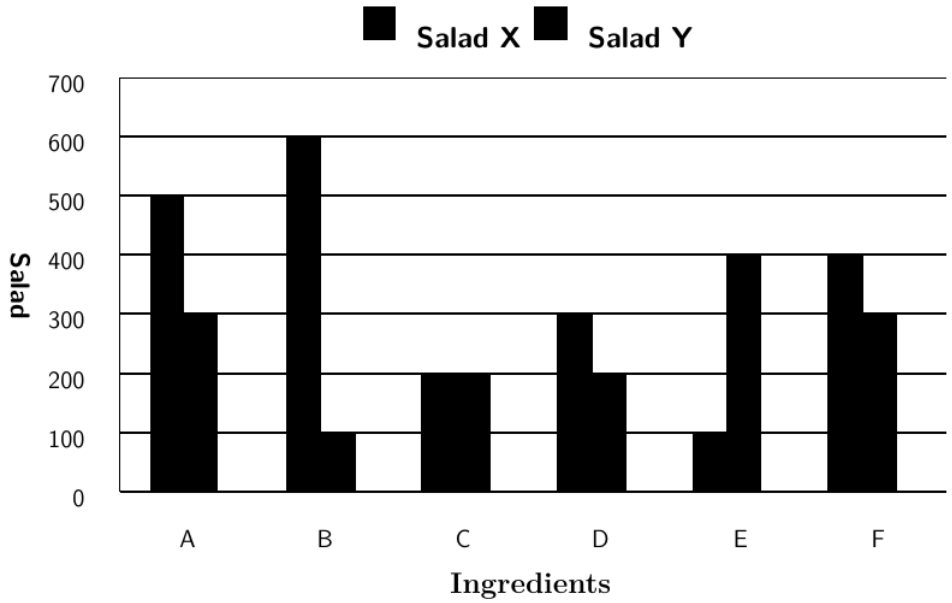


Q2. The bar graph shows the population density of 6 countries in 2000 and 2010.

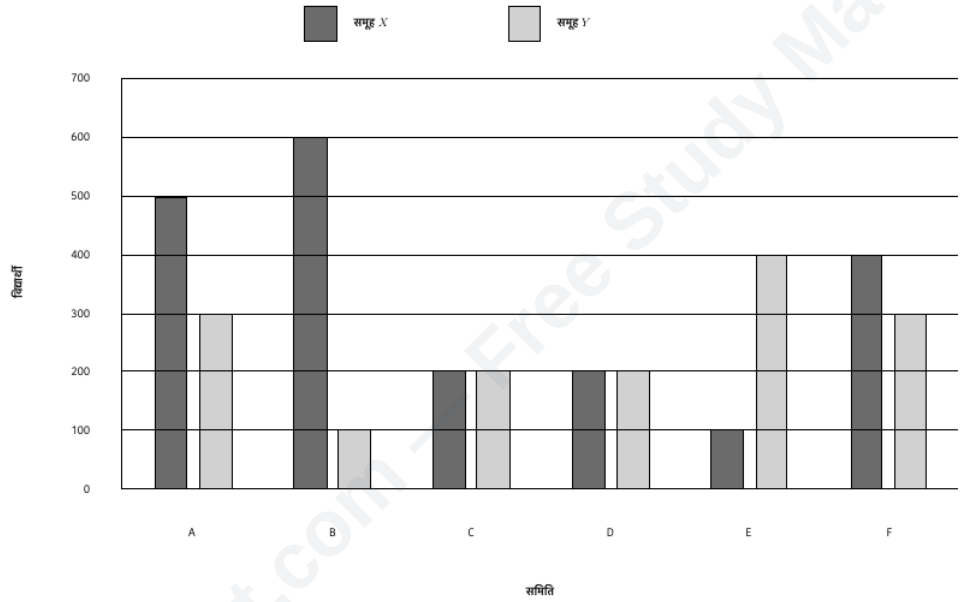
If the population of country B is 10 million in 2000 and the population of country D is 6 million in 2010, how much more is the area of country B than the area of country D, where population density is measured as the number of people per 100 square kilometers.

(a) 500%
(b) 20%
(c) 400%
(d) 25%

Directions



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Q3. The bar graph shows all the ingredients (in grams) required to make two types of salads, X and Y. If Ingredient B of Salad X is reduced by 100 grams and Ingredient E of salad Y is increased by 25% then salad Y would be lighter than salad X by _____.

(a) 37.50%
(b) 25%
(c) 20%
(d) 22.50%

Q4. In a steady-flowing river, a boat goes a certain distance upstream at a speed of 12 km/h and comes back the same distance at 24 km/h. Find the average speed for the total journey.

(a) 15 km/h
(b) 16 km/h
(c) 18 km/h
(d) 20 km/h

Q5. Find mass of an iron cube of side 2 cm. (Density of iron is 7.8 gm/cm^3)

(a) 3.9 gm
(b) 0.975 gm
(c) 15.6 gm
(d) 62.4 gm

Q6. Two cars, X and Y, travel from A to B at average speeds of 50 km/hr and 75 km/hr respectively. If X takes 2 hours more than Y for the journey, then the distance between A and B in km is _____.

(a) 600
(b) 400
(c) 800
(d) 300

Q7. If a shopkeeper sells an item at Rs. 2,700, he makes 8% profit. If he sells the item at Rs. 3,000 what will be the percentage of profit?

(a) 12
(b) 20
(c) 10
(d) 25

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Q8. Find the highest common factor of 506 and 782.

(a) 29
(b) 34
(c) 46
(d) 22

Q9. A alone can do a task in 35 days and B alone in 14 days. If they work on it together for 5 days, then what fraction of the task is left?

(a) Quarter
(b) One-thirds
(c) Half
(d) Three fourths

Q10. $(0.1^2 - 0.025^2) \div (0.1 - 0.025) =$ _____.

(a) 0.325
(b) 0.125
(c) 0.625
(d) 0.25

Q11. Find the coordinates of the midpoint of the segment joining the points (-4, 7) and (2, 3).

(a) (-1, 5)
(b) (-2, 3)
(c) (1, -5)
(d) (2, 4)

Q12. 20 - 2[25% of (15 × 8 ÷ 6 + 12)] = _____

(a) 4
(b) 6
(c) 10
(d) 8

Q13. If a - b = 5 and ab = 14, then find $a^2 + b^2$.

(a) 53
(b) 27
(c) 5
(d) 19

Q14. Find the value of 5 sin θ - 2 cosec θ, if θ = 30°.

(a) 3/2
(b) • 3/2
(c) 2/3
(d) • 2/3

Q15. In a certain gear train, the driver has 18 teeth while the follower has 8 teeth. For every 16 turns of the driver, the follower turns _____ times.

(a) 18
(b) 8
(c) 36
(d) 9

Q16. If 5x/2 - 1/4(6x - 5/3) = 7/6, then the value of x is _____.

(a) 5/4
(b) 3/4
(c) 3/7
(d) 5/7

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Q17. If the amount received at the end of 1^(st) and 2^(nd) year at compound interest on a certain principal is Rs. 1,350 and Rs. 1,458 respectively, what is the rate of interest?

(a) 10%
(b) 15%
(c) 12%
(d) 8%

Q18. A trader buys 60 bags of grain at Rs. 400 each. If he sells 18 bags at 8% profit, at what price should he sell the remaining bags to make 16.4% overall profit on selling the 60 bags?

(a) Rs. 480
(b) Rs. 500
(c) Rs. 540
(d) Rs. 520

Q19. If A, B and C can do a task working alone in 12, 18 and 36 days respectively. They all work together for 2 days, then B quits. How many days A and C working together will take to complete the remainder of the task?

(a) 6
(b) 3
(c) 4
(d) 9

Q20. What is the area (in cm^2) of an equilateral triangle of side 8 cm?

(a) $32\sqrt{3}$
(b) $8\sqrt{3}$
(c) $64\sqrt{3}$
(d) $16\sqrt{3}$

Q21. A and B start to walk from point P towards point Q. The distance between P and Q is 9 km. B starts 4 minutes after A. A, on reaching Q, immediately returns and after walking a kilometre meets B. If A's speed is a kilometre in 10 minutes, what is B's speed in kilometres per minute?

(a) 1/15
(b) 1/8
(c) 1/12
(d) 1/6

Q22. Pipe A can fill a tank in 6 hours. Pipe B can empty it in 15 hours. If both the pipes are opened together, then the tank will be filled in how many hours?

(a) 9
(b) 8
(c) 12
(d) 10

Q23. When a number is increased by 36, it becomes 109% of itself. What is the number?

(a) 300
(b) 450
(c) 360
(d) 400

Q24. A bullet travels 90 m in 0.2 seconds. Find its speed in km/hr.

(a) 162
(b) 1,620
(c) 1,250
(d) 125

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Q25. An executive earns a salary of Rs. 12,600 every month, and he spends 5/7 of it. If his salary increases by 1/3^(rd) and his spending increases by 1/5^(th) of the present expenditure, what fraction of his salary will he save?

(a) 7/16
(b) 8/15
(c) 7/15
(d) 5/14

Q26. If 3A = 6B = 7C; find A : B : C.

(a) 12 : 7 : 3
(b) 7 : 12 : 6
(c) 14 : 7 : 6
(d) 7 : 3 : 12

Q27. Find x if the mean of the numbers 10, 4, 1, 15, 15, x, 12 and 14 is 10.

(a) 7
(b) 8
(c) 9
(d) 10

Q28. If √X + 0.24 = √0.1296 then find X.

(a) 0.0144
(b) 0.12
(c) 1.44
(d) 0.0012

Q29. The weights of 3 boxes are 4, 7 and 10 kilograms. Which of the following CANNOT be the total weight, in kilograms, of any combination of these boxes?

(a) 14
(b) 21
(c) 17
(d) 18

Q30. The author of 'The Monk Who Sold His Ferrari' is _____.

(a) Arvind Adiga
(b) Robin Sharma
(c) Manohar Malgonkar
(d) Arundhati Roy

Q31. Find the work done (in kJ) if a force of 750 N pushes a cart of mass 30 kg by 16 m.

(a) 24
(b) 12
(c) 36
(d) 48

Q32. Which hazardous substance can cause lung cancer?

(a) Benzene vapours
(b) Asbestos particles
(c) Herbicides
(d) Aluminum

Q33. _____ is the physiological adjustment by an organism to environmental change.

(a) Bioremediation
(b) Bioaccumulation
(c) Cogeneration
(d) Acclimation

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Q34. Which of the following gases is a highly poisonous, odourless, tasteless and colourless gas?

(a) Carbon dioxide
(b) Carbon monoxide
(c) Methane
(d) Nitrogen dioxide

Q35. Green and yellow vegetables in our diet mostly provide us which element as food?

(a) Copper
(b) Sodium
(c) Zinc
(d) Potassium

Q36. Binary 110110101 is equal to decimal _____.

(a) 333
(b) 437
(c) 349
(d) 477

Q37. A/An _____ is software used to maintain the security of a private network.

(a) malware
(b) encryption
(c) firewall
(d) clickbait

Q38. Who was the chairman of the Constitution Drafting Committee?

(a) Jawaharlal Nehru
(b) Dr. B R Ambedkar
(c) Dr. Rajendra Prasad
(d) Sardar Patel

Q39. The Umaid Bhawan Palace is in which city?

(a) Jaipur
(b) Jodhpur
(c) Bikaner
(d) Udaipur

Q40. Classical musician Shivkumar Sharma is associated with which musical instrument?

(a) Shehnai
(b) Tabla
(c) Violin
(d) Santoor

Q41. Which of the following folk dances is from Assam?

(a) Giddha
(b) Lezim
(c) Nati
(d) Bagurumba

Q42. -100° Celsius = _____ Fahrenheit

(a) -373°
(b) -148°
(c) 173°
(d) -212°

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Q43. If 36 J of work is done in moving a charge Q across 8 V, find Q (in coulombs).

(a) 288
(b) 9
(c) 4.5
(d) 16

Q44. What is the relative density of a solid of mass 50 gm which when fully immersed in water weighs 10 gm?

(a) 5
(b) 1.25
(c) 2.5
(d) 0.8

Q45. If the speed of a car increases from 54 km/hr to 90 km/hr, its kinetic energy increases in the ratio of _____.

(a) 3/5
(b) 9/4
(c) 9/16
(d) 9/25

Q46. Find the length (in cm) of the edge of a cube of a piece of wood which weighs 80 N. (Use g = 10 m/s^2, density of wood = 1 g/cm^3)

(a) 60
(b) 20
(c) 80
(d) 40

Q47. Two resistors of R Ω and 60 Ω are connected in parallel to get an effective resistance of 24 Ω. Find R.

(a) 56
(b) 64
(c) 48
(d) 40

Q48. Farad per meter is the unit of _____.

(a) watt per steradian
(b) permittivity
(c) permeability
(d) electric conductance

Q49. A _____ map converts color intensity or grayscale information to heights to give the appearance that features are raised above the surface, like embossed letters.

(a) shade
(b) bump
(c) tone
(d) tint

Q50. A truck of mass 5000 kg accelerates from 25 m/s to 35 m/s. Find the change in its kinetic energy (in MJ).

(a) 1
(b) 2.5
(c) 1.5
(d) 2

Q51. Which of the following recipients of the Dadasaheb Phalke Award received it posthumously?

(a) Vinod Khanna
(b) Satyajit Ray
(c) Naushad
(d) Durga Khote

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Q52. To _____ is to prepare a storage medium, usually a disk, for reading and writing.

(a) format
(b) defrag
(c) map
(d) boot

Q53. Which of the following is the correct relation between resistance ‘R’, conductivity ‘σ’, length ‘L’ and area of cross section ‘A’ of a metal wire?

(a) RL = Aσ
(b) RσA = L
(c) RA = Lσ
(d) σ = RL/A

Q54. Which team won the Indian Premier League (IPL) in 2018?

(a) Sunrisers Hyderabad
(b) Chennai Super Kings
(c) Royal Challengers Bangalore
(d) Kolkata Knight Riders

Q55. Antihistamines are found in some first-aid boxes. When should these drugs be taken?

(a) To aid in clotting of blood
(b) To ease the symptoms of hay fever and other allergies
(c) To ease the indigestion and heartburn
(d) To bring relief from asthma

Q56. Acceleration due to gravity on moon is 1/6^(th) that on earth. How much would an astronaut weigh on the moon if he weighs 90 kgf on earth? (acceleration due to gravity on earth = 10 m/s²)

(a) 15 N
(b) 150 N
(c) 90 N
(d) 9 N

Q57. Which of the following is NOT a base unit?

(a) mole
(b) ampere
(c) radian
(d) candela

Q58. Who invented the blue jeans?

(a) Levi Strauss
(b) Todd Oldham
(c) Calvin Klein
(d) Gianni Versace

Q59. Find the potential difference (in V) across a resistance of 2.5 kΩ through which a 2 mA current flows.

(a) 5
(b) 0.2
(c) 1.25
(d) 0.8

Q60. The Living Planet Report, released every two years, is the flagship publication of which organisation?

(a) The Nature Conservancy
(b) World Wide Fund for Nature
(c) Conservation International
(d) Wildlife Conservation Society

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Q61. The sum of two binary numbers 1101111 and 1100101 is _____.

(a) 100011100
(b) 100000110
(c) 11110000
(d) 11010100

Q62. The National Skills Development Corporation (NSDC) is a public-private partnership formed under India's _____.

(a) Ministry of Finance
(b) Ministry of Electronics & Information Technology
(c) Ministry of Corporate Affairs
(d) Ministry of Science & Technology

Q63. The resistance of a metal rod depends on all of the following, except _____.

(a) resistivity
(b) density
(c) length
(d) temperature

Q64. Find the missing number in the given series.

-1.3, -0.8, -0.3, ?, 0.7, 1.2

(a) 0.1
(b) 0.3
(c) 0.4
(d) 0.2

Q65. 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 can definitely be drawn from the given statement.

Statement: "You are appointed as a trainee accountant on temporary basis. Your employment status will automatically be converted to permanent on submission of pass result of M Com final exam." — Extract from an appointment letter.

Assumptions:

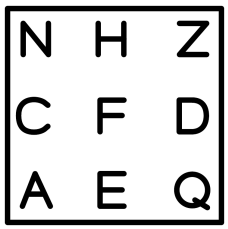
I. M Com final exam is a reasonable proof of an accountant's capability.

II. All trainees are appointed on temporary basis.

(a) Both I and II are implicit
(b) Only assumption I is implicit
(c) Only assumption II is implicit
(d) Neither I nor II is implicit

Q66. Choose the figure which is different from the rest.

(a)



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(b)

Z	C	H
F	A	N
O	D	E

(c)

H	D	N
F	O	Z
C	E	A

(d)

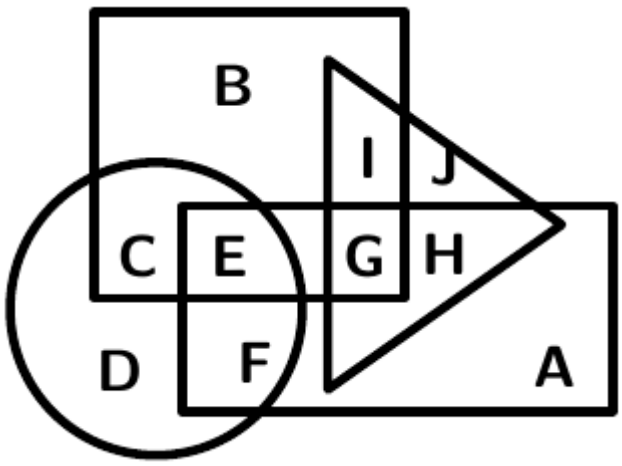
A	C	Q
Z	+ D =	E
N	F	H

Q67. In a certain code language, '+' represents '×', '÷' represents '+', '-' represents '÷' and '×' represents '-'. Find out the answer to the following question.

12 ÷ 6 – 2 + 10 × 5 = ?

(a) 50
(b) 37
(c) 23
(d) 16

Q68. In the following figure, the triangle represents actors, the square represents professors, the circle represents Indians and the rectangle represents fathers. Which set of letters represents Indians who are either professors or fathers?



(a) IGH
(b) CEF
(c) E
(d) G

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Q69. Choose the letters which are different from the rest.

(a) HJL
(b) PRT
(c) VTR
(d) UWY

Q70. Select the option that is related to the third word on the same basis as the second word is related to the first word.

Letter : Envelope ? Dagger : ?

(a) Sheath
(b) Weapon
(c) Sword
(d) Sharp

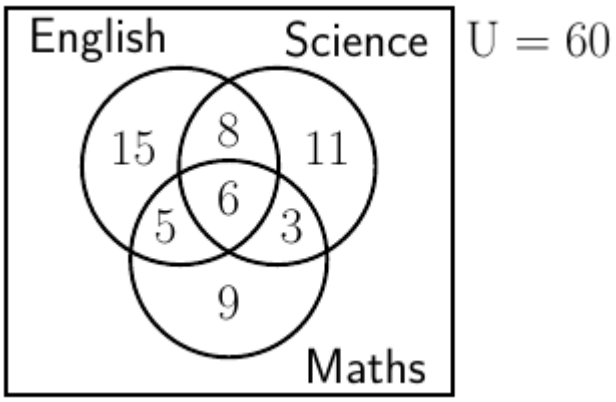
Q71. If A $ B means A is the husband of B, A # B means A is the brother of B and A * B means A is the mother of B, then what does P $ Q * R # S mean?

(a) P is the father of S
(b) P is the brother-in-law of S
(c) P is the son of S
(d) P is the brother of S

Q72. What is the angle between the hour hand and the minute hand at half past two?

(a) 105°
(b) 75°
(c) 120°
(d) 90°

Q73. The given Venn diagram shows the number of students who have passed in the three exams, viz. English, Science and Maths. How many students failed in all the three exams?



(a) 3
(b) 12
(c) 9
(d) 6

Q74. One statement is given followed by two conclusions. Decide which of the given conclusions can definitely be drawn from the given statement.

Statement: As income increases, cars become more affordable.

Conclusion I: With greater use of technology, cars are now cheaper than they were a generation ago.

Conclusion II: Cars will become so numerous that no future technology will solve the traffic problem.

(a) Only conclusion I follows
(b) Both I and II follow
(c) Neither I nor II follows
(d) Only conclusion II follows

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Q75. A postman starts from the post office and cycles 13 km south, then turns west and cycles 10 km, then turns north and cycles 8 km, then turns east and cycles 2 km and then turns to his left and cycles 5 km. Where is he now with reference to his starting position?

(a) 8 km east
(b) 12 km east
(c) 12 km west
(d) 8 km west

Q76. Here are some words from an artificial language.

unacri means lighthouse

bancri means lightweight

banetu means overweight

Which word would mean 'overdrive'?

(a) adiban
(b) adietu
(c) simuna
(d) criteh

Q77. At present, the ratio between the ages of Anu and Dimpy is 5 : 8. After 2 years, the ratio of their ages will become 2 : 3. What was Dimpy's age before 2 years?

(a) 10
(b) 12
(c) 16
(d) 14

Q78. 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 with commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.

Statement:

All flags are banners.

Some flags are emblems.

Conclusion:

I. Some emblems are banners.

II. All banners are emblems.

III.No emblems are banners.

(a) Only conclusion I follows
(b) Only conclusion III follows
(c) All conclusions I, II and III follow
(d) Only conclusion I and III follow

Q79. Choose the one which is different from the rest.

(a) Father
(b) Son
(c) Mother-in-law
(d) Brother

Q80. Select the option that is related to the third word on the same basis as the second word is related to the first word.

Poem : Stanza ? Book : ?

(a) Language
(b) Story
(c) Page
(d) Printing

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Q81. If 8 # 12 = 10; 5 # 9 = 7; 6 # 10 = 8, then find the value of 14 # 4.

(a) 10
(b) 9
(c) 5
(d) 3

Q82. In a certain code DIRTY is coded as 24759 and FOAM is coded as 1863. Using the same code ARID will be coded as _____.

(a) 2489
(b) 9165
(c) 1579
(d) 6742

Q83. In the following question, which set of letters and numbers, when sequentially placed at the gaps in the given series, shall complete it?

1_2x_bb_yy_cc_6zzz

(a) a345c
(b) 3a45b
(c) 3a4b5
(d) 3a45c

Q84. A said to B, “You are my husband’s daughter-in-law’s son.” How is B related to A?

(a) B is the father of A
(b) B is the grandson of A
(c) B is the brother of A
(d) B is the son of A

Q85. 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: Some wagons are buggies.

Statement 2: All wagons are carts.

Conclusion I: All buggies are carts.

Conclusion II: Some carts are buggies.

(a) Only conclusion I follows
(b) Both I and II follow
(c) Neither I nor II follows
(d) Only conclusion II follows

Q86. Rearrange the parts of the sentence in the correct order.

A customer based on reasons

X- chances are that they actually made the change

Y- may not come out of the changing room, but

Z- which is unfortunately inappropriate

(a) YXZ
(b) ZYX
(c) XZY
(d) ZXY

Q87. Find the power (in W) of a pump if it can lift 1 tonne of water by 90 m in 30 minutes. (Assume 100% efficiency and use g= 10 m/s²)

(a) 50
(b) 250
(c) 25

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(d) 500

Q88. Which of the following is an example of a first class lever?

(a) Ice tongs
(b) Wheel barrow
(c) A pair of scissors
(d) Nut cracker

Q89. _____ curves employ at least three points to define a curve. The two endpoints of the curve are called anchor points. The other points, which define the shape of the curve, are called handles, tangent points, or nodes.

(a) Bicorn
(b) Bezier
(c) Deltoid
(d) Kappa

Q90. Find the efficiency of a pulley system which has a mechanical advantage of 2.5 and where the load lifts by 2.5 meters on pulling the rope by 10 m.

(a) 62.50%
(b) 25.00%
(c) 40.00%
(d) 100.00%

Q91. _____ is when we cover a surface with a pattern of flat shapes so that there are no overlaps or gaps.

(a) Tessellation
(b) Tracking
(c) Gradient
(d) Kerning

Q92. If half a litre of hot water at 90°C is mixed with three and a half litres of cold water at 10° C, find the final equilibrium temperature (in °C) if no heat is lost.

(a) 20
(b) 40
(c) 30
(d) 50

Q93. Two children, weighing 30 kg and 15 kg, sit on one side of a see-saw at a distance of 1 m and 1.2 m respectively, from the fulcrum. A boy of 'M' kg sits on the other side of the see-saw at a distance of 1.2 m from the fulcrum, and the see- saw is in equilibrium. Find M.

(a) 36
(b) 45
(c) 48
(d) 40

Q94. Find the heat capacity of a pan of mass 200 g, if its temperature rises by 8° C on receiving 2000 J of heat.

(a) 250 JK^(-1)
(b) 5 JK^(-1)
(c) 50 Jkg^(-1)K^(-1)
(d) 1.25 Jkg^(-1)K^(-1)

Q95. 210 mm × 297 mm are the dimensions of _____ size paper.

(a) A4
(b) A2
(c) A3
(d) A1

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Q96. The sentences given in the question, which, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a letter. Choose the most logical order of sentences from among the given choices to construct a coherent paragraph.

Outside their window there was a vine with attractive foliage, but it started shedding leaves one by one as summer passed through fall into winter.

A - Came dawn, when Johnsy looked out of the window from her sick bed, lo and behold, the leaf was still there and it continued to be there on the following days.

B - Finally, only one last leaf remained. Johnsy told Sue that when that leaf fell, her life would also go.

C - The girl regained her will to live and was fully recovered in a few days.

D - A concerned elderly artist friend of the girls, hearing this story, climbed outside the window in the bitterly cold night and painted a life-like leaf at the spot from where the last leaf had just fallen.

(a) BDCA
(b) BDAC
(c) DBCA
(d) DBAC

Q97. An object with greater _____ has greater inertia.

(a) velocity
(b) acceleration
(c) volume
(d) mass

Q98. Find the specific heat capacity (in Jg^(-1)K^(-1)) of a block of metal of mass 500 g, the temperature of which rises by 80°C when it absorbs 10 kJ of heat?

(a) 0.4
(b) 0.16
(c) 1.56
(d) 0.25

Q99. Find the specific latent heat of vaporisation of 1.25 g of nitrogen (in Jg^(-1)), if it releases 250 Joules of heat when it condenses at its boiling point of 196° C.

(a) 469
(b) 500
(c) 312.5
(d) 200

Q100. An arrowhead at the end of a dimension line is approximately _____ long and 1 mm wide.

(a) 3 mm
(b) 5 mm
(c) 1 mm
(d) 1.5 mm

PART B

Q101. For resistance measurement, a meter contains _____.

(a) low voltage source
(b) high source
(c) medium current source
(d) low current source

Q102. Armature winding is mounted on a _____. (DC Motor)

(a) platform
(b) wooden base
(c) stator

(d) rotor

Q103. Vacuum thermos-elements types of instruments are mostly employed for the measurement of electric current at _____.

(a) medium frequency
(b) normal frequency
(c) very high frequency
(d) very low frequency

Q104. If one wants to divert from main line to a two-direction use, then which of these has to be used?

(a) Bend
(b) Union
(c) Elbow
(d) T

Q105. The fundamental unit which is common in FPS and MKS systems is _____.

(a) Foot
(b) Pound
(c) Kilogram
(d) Second

Q106. What will be the effect if a refrigeration cycle contains moisture?

(a) Capillary may choke
(b) Compressor will switch off
(c) Fan will switch off
(d) Thermostat will switch off

Q107. What is the difference of DC voltages in adjoining brushes?

(a) 10 V
(b) 15 V
(c) 0 V
(d) 12 V

Q108. Bourdon tube can be used for measurements of pressure up to _____.

(a) 10 MN/m2
(b) 5 MN/m2
(c) 3 MN/m2
(d) 8 MN/m2

Q109. What does a Multimeter measure?

(a) Pressure
(b) Current
(c) Temperature
(d) Force

Q110. Which method is employed to connect batteries?

(a) parallel
(b) Direct
(c) Series
(d) reverse

Q111. What is the full form of SVGA?

(a) Standard Visual Graphics Array
(b) Stereo Video Graphy Array
(c) Super Video Graphics Array

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(d) Standard Video Graphics Amplifier

Q112. What is the atmospheric pressure at sea level?

(a) 23 psi
(b) 18.75 psi
(c) 14.70 psi
(d) 21.70 psi

Q113. How many strain gauges are required for measuring deformation?

(a) Four
(b) Two
(c) Three
(d) One

Q114. The receiver tank will help remove water from the system by giving _____.

(a) the air a chance to become cool
(b) the air a chance to become moisture
(c) the air a chance to convert into vapour
(d) the air a chance to become hot

Q115. Supply voltage in an energy meter _____.

(a) is always zero
(b) is always constant
(c) depends on the load
(d) can fluctuate

Q116. Generator transformers are _____ transformers.

(a) Step-up
(b) Step-down
(c) One-one
(d) Auto

Q117. The device used to measure potential difference between two points in volts is known as _____.

(a) Voltmeter
(b) Ammeter
(c) Ohmmeter
(d) Energy metre

Q118. Which of the following cutting conditions greatly affects the tool wear?

(a) Frequency of use
(b) Depth of cut
(c) Feed
(d) Cutting speed

Q119. Digital voltmeters can be used to measure _____.

(a) voltage and pressure
(b) force
(c) current
(d) resistance

Q120. Where is a field magnet coil fitted in DC generator?

(a) In the rotor
(b) On the shaft
(c) On the back cover
(d) In the body

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Q121. Which of the following material is used for negative pole of a dry cell?

(a) silicon
(b) Aluminium
(c) Zinc
(d) Lead

Q122. A dynamometer type wattmeter consists of _____.

(a) no coils
(b) electric coil
(c) potential and current coils
(d) moving coil

Q123. Ratchet of outside micrometre is used to _____.

(a) indicate the correct measurement achieved
(b) lock the frame
(c) lock the hub
(d) lock the spindle

Q124. Which hand tool is used to remove spots for obtaining high degree of accuracy?

(a) File
(b) Scraper
(c) Chisel
(d) Hacksaw

Q125. Energy source is NOT available in the _____.

(a) battery
(b) generator
(c) rheostat
(d) multimeter

Q126. A Zener diode is used as _____.

(a) an amplifier
(b) a multi-vibrator
(c) a rectifier
(d) a voltage regulator

Q127. Crystal oscillators are best suitable for the use in _____.

(a) timing elements
(b) movement elements
(c) speed elements
(d) temperature elements

Q128. How can the air quality condition of a place be improved?

(a) By adding air
(b) By using a de-humidifier
(c) By filtration of air
(d) By adding moisture to the air

Q129. Which of the following is not a type of pressure sensing element?

(a) Orifice plate
(b) Bourdon tube
(c) Diaphragm
(d) Bellows

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Q130. The SI unit of inductance is _____.

(a) henry
(b) volt
(c) amperes
(d) Ohms

Q131. A shaft coupling is a device used to _____.

(a) connect two shafts together
(b) change direction of the shaft
(c) change the direction of rotation
(d) connect three shafts together

Q132. The Output of NAND Gate is low in case

(a) any one of the inputs is LOW
(b) any one of the inputs is HIGH
(c) all of the inputs are HIGH
(d) all of the inputs are LOW

Q133. If a CRO maximum input is 10 V, then which of these probes can be used to measure 60 V?

(a) 30 x
(b) 1000 x
(c) 1 x
(d) 10 x

Q134. In a PNP transistor, the base is of _____ material.

(a) N
(b) Y
(c) X
(d) P

Q135. Dynamometer type wattmeter responds to the _____.

(a) average value of the active power
(b) average value of the reactive power
(c) peak value of the active power
(d) peak value of the reactive power

Q136. Cast iron water pipe joint is fitted with the help of _____.

(a) brazing
(b) a socket
(c) flange coupling
(d) welding

Q137. What is used as a Circuit breaker?

(a) fuse
(b) resistor
(c) switch
(d) resettable protective device

Q138. Which of the following is the unit of length?

(a) Light year
(b) Candela
(c) Lunar month
(d) Kelvin

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Q139. Swaging of copper tube is done for joining _____.

(a) the stud
(b) the flaring nut
(c) a dissimilar diameter tube
(d) a tube of the same diameter as the copper tube

Q140. _____ is the standard line of measurement tool.

(a) Slip gauges
(b) Micrometre
(c) Measuring tape
(d) End bars

Q141. Hard copper tube can be flared by _____.

(a) using hard flaring tool
(b) annealing copper tube
(c) applying special chemicals
(d) red hot position of the tube

Q142. Why is straightening of copper tube needed?

(a) To increase the fluid pressure
(b) To avoid corrosion
(c) To decrease the fluid pressure
(d) To make the outer look good

Q143. Equalizer ring is required in case of armature having which of the following winding?

(a) Lap
(b) Delta
(c) Wave
(d) Duplex

Q144. Law of conservation of Energy is the basis for _____ law.

(a) Ohms
(b) Faradays
(c) Kirchhoff
(d) Fleming

Q145. What is the meaning of m8 × 1.25?

(a) Modern thread with 1.25 mm pitch
(b) Master thread with 1.25 mm pitch
(c) Malaysia thread with 1.25 mm pitch
(d) Metric thread with 1.25 mm pitch

Q146. Root of the thread is _____.

(a) the smallest diameter of a screw thread
(b) the largest diameter of a screw thread
(c) the bottom of the thread groove
(d) between crest and the root of the thread

Q147. If input frequency is 50 Hz, then the ripple frequency of half wave rectifier will be equal to _____.

(a) 25 Hz
(b) 50 Hz
(c) 100 Hz
(d) 500 Hz

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Q148. The cycle required to fetch and execute an instruction in an 8085 microprocessor is known as a _____.

(a) Machine cycle
(b) Memory cycle
(c) Instruction cycle
(d) Clock cycle

Q149. Dry cell E.M.F Value is approximately _____.

(a) 2.5 V
(b) 2.0 V
(c) 0.5 V
(d) 1.5 V

Q150. How many control springs are provided in Power Factor Meter?

(a) Four
(b) One
(c) Two
(d) Zero

Q151. For comfort air zone, what should be the RH range?

(a) 20% - 30%
(b) 10% - 20%
(c) 50% - 60%
(d) 30% - 40%

Q152. Which device acts like an NPN and a PNP transistor connected base-to-base and emitter-to-collector?

(a) TRIAC
(b) DIAC
(c) SCR
(d) UJT

Q153. Megger is an instrument used for the measurement of _____.

(a) Low resistance
(b) Leakage current
(c) Medium resistance
(d) High resistance

Q154. A socket is used to _____.

(a) join two similar pipes
(b) divert direction of pipe
(c) keep the pipe in same direction
(d) join two dissimilar pipes

Q155. In a balanced 3 phase circuit, neutral current is always _____.

(a) 12 A
(b) 10 A
(c) 15 A
(d) 0 A

Q156. Stable Oscillator Output has constant _____.

(a) Voltage & resistance
(b) Amplitude and frequency
(c) Temperature & movement
(d) Current

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Q157. Resistivity of the wire depends on mainly _____

(a) number of wires
(b) Material
(c) Diameter of the wire
(d) Length of the wire

Q158. What instrument is used for visually indicating the pressure level?

(a) Manometer
(b) Diaphragm sensor
(c) Bourdon tube
(d) Resonant wire device

Q159. An amplifier which has zero input signal is called _____.

(a) fluctuating signal condition
(b) zero signal condition
(c) maximum signal condition
(d) minimum signal condition

Q160. By what name is Voltage magnification of electromagnetism known?

(a) Use factor
(b) Voltage factor
(c) Current factor
(d) Quality factor

Q161. What is the unit for electric charge?

(a) watts - hr
(b) Ampere - hour
(c) Voltage
(d) Ohms - hr

Q162. A crystal diode has _____.

(a) two p-n junctions
(b) three p-n junctions
(c) four p-n junctions
(d) one p-n junction

Q163. If Power = 100 watt and Resistance = 4 ohms, then Current (I) = _____?

(a) 10 A
(b) 100 A
(c) 2 A
(d) 5 A

Q164. The AC power of output signal is obtained by _____ of amplifier.

(a) AC biasing voltage
(b) DC biasing voltage
(c) input AC voltage
(d) Input DC voltage

Q165. Transformer utilization factor of a half wave rectifier is equal to _____.

(a) 0.267
(b) 0.287
(c) 0.297
(d) 0.256

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Q166. What is the recommended temperature range of copper tube?

(a) -29°C to 425°C
(b) -40°C to 205°C
(c) -80°C to 335°C
(d) -225°C to 550°C

Q167. How many types of Phase Sequence Indicators are there?

(a) 1
(b) 2
(c) 5
(d) 10

Q168. What happens if a kink develops during pipe bending?

(a) Finishing gets effected
(b) Joining problem occurs
(c) Pressure drop of fluid is more
(d) Pressure drop of fluid is less

Q169. How is the moisture content of 'condition space' improved?

(a) By removing dry air
(b) By isolating unit
(c) By adding dry air
(d) By adding moisture

Q170. Which type of pencil drier adsorbs moisture?

(a) Silica gel containing drier
(b) Metal net containing drier
(c) Molecular sieve containing drier
(d) Alumina containing drier

Q171. Tunnel diode has a very fast operation in the _____ frequency region.

(a) Wi-Fi
(b) microwave
(c) ultraviolet
(d) gamma

Q172. Calculate the work done in a resistor of 10 ohm carrying 3 A of current in 3 hours.

(a) 27 kWh
(b) 0.027 J
(c) 270 kJ
(d) 0.27 kWh

Q173. What is the probe required for Power Quality Analyser for three phase supply?

(a) 1 Current, 2 Voltage
(b) 3 Current, 3 Voltage
(c) 2 Current, 2 Voltage
(d) 2 Current, 1 voltage

Q174. 450V bulb passes a current of 0.4A. Calculate the power in the lamp.

(a) 180 W
(b) 900 W
(c) 425 W
(d) 1125 W

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Q175. What cannot be measured using a CRO device?

(a) voltage ripple
(b) resistance
(c) current
(d) voltage

ANSWER KEY

1	a	2	a	3	a	4	a	5	a	6	a	7	a	8	a	9	a	10	a
11	a	12	a	13	a	14	a	15	a	16	a	17	a	18	a	19	a	20	a
21	a	22	a	23	a	24	a	25	a	26	a	27	a	28	a	29	a	30	a
31	a	32	a	33	a	34	a	35	a	36	a	37	a	38	a	39	a	40	a
41	a	42	a	43	a	44	a	45	a	46	a	47	a	48	a	49	a	50	a
51	a	52	a	53	a	54	a	55	a	56	a	57	a	58	a	59	a	60	a
61	a	62	a	63	a	64	a	65	a	66	a	67	a	68	a	69	a	70	a
71	a	72	a	73	a	74	a	75	a	76	a	77	a	78	a	79	a	80	a
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91	a	92	a	93	a	94	a	95	a	96	a	97	a	98	a	99	a	100	a
101	a	102	a	103	a	104	a	105	a	106	a	107	a	108	a	109	a	110	a
111	a	112	a	113	a	114	a	115	a	116	a	117	a	118	a	119	a	120	a
121	a	122	a	123	a	124	a	125	a	126	a	127	a	128	a	129	a	130	a
131	a	132	a	133	a	134	a	135	a	136	a	137	a	138	a	139	a	140	a
141	a	142	a	143	a	144	a	145	a	146	a	147	a	148	a	149	a	150	a
151	a	152	a	153	a	154	a	155	a	156	a	157	a	158	a	159	a	160	a
161	a	162	a	163	a	164	a	165	a	166	a	167	a	168	a	169	a	170	a
171	a	172	a	173	a	174	a	175	a										

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