RRB ALP Mechanic Diesel 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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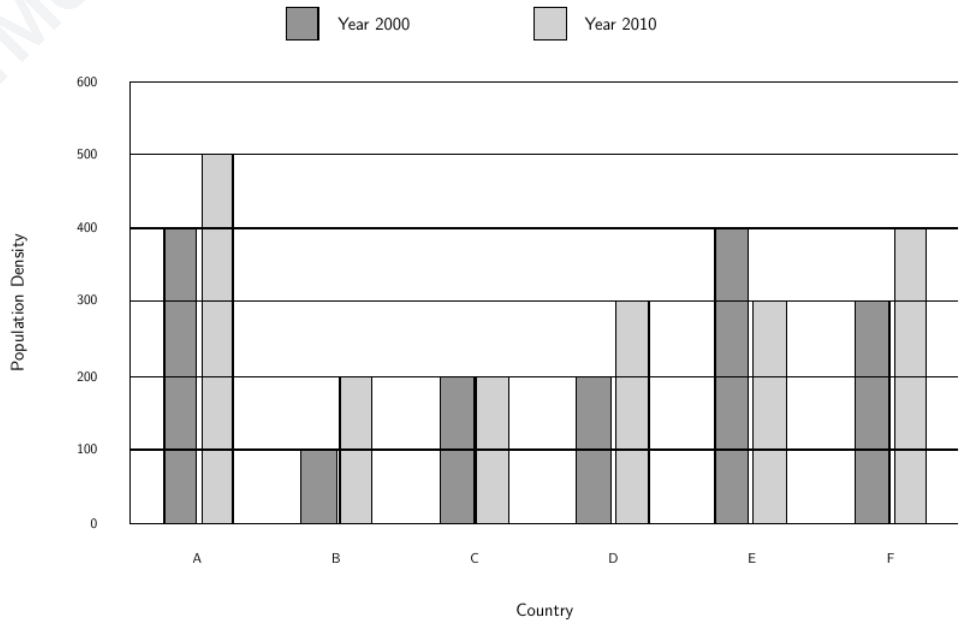
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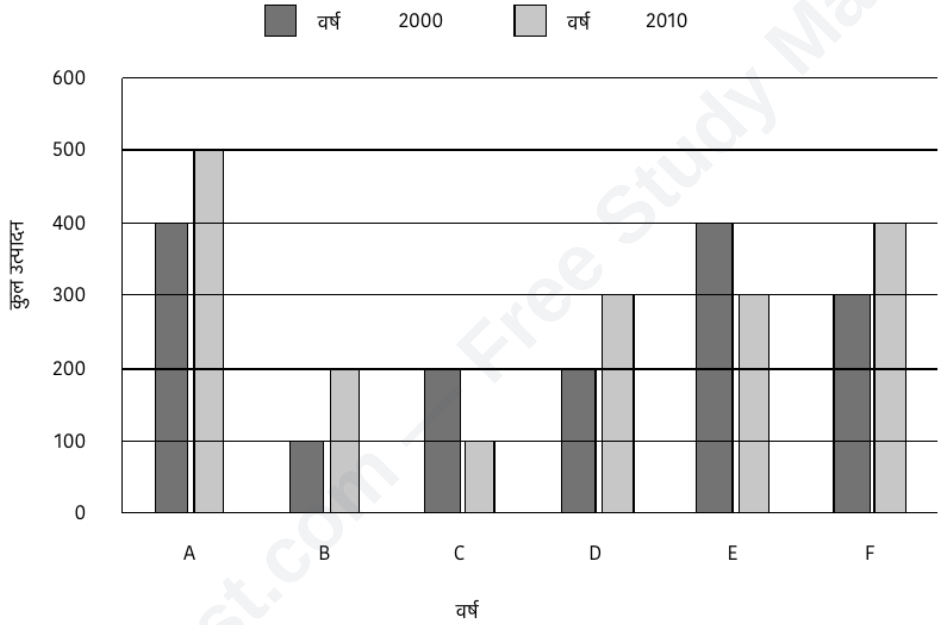
PART A

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



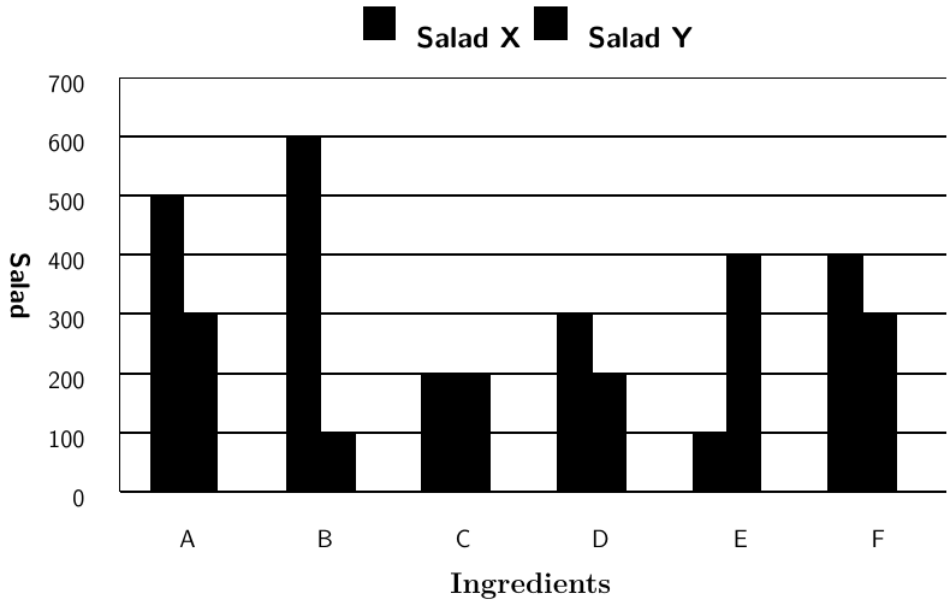


Q2. The bar graph shows the population density of 6 countries in 2000 and 2010.

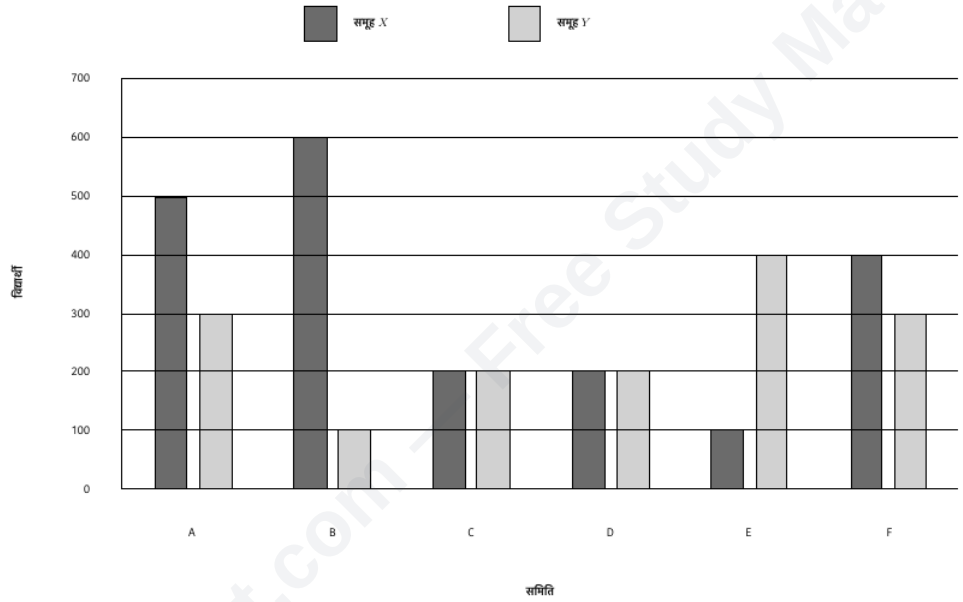
If the population of country B is 10 million in 2000 and the population of country D is 6 million in 2010, how much more is the area of country B than the area of country D, where population density is measured as the number of people per 100 square kilometers.

(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:

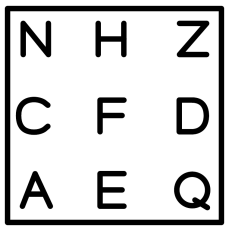
I. M Com final exam is a reasonable proof of an accountant's capability.

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)

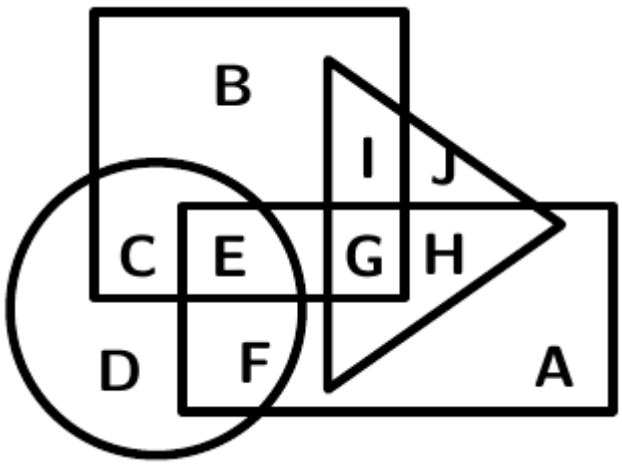
A	C	Q
Z	+ D =	E
N	F	H

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

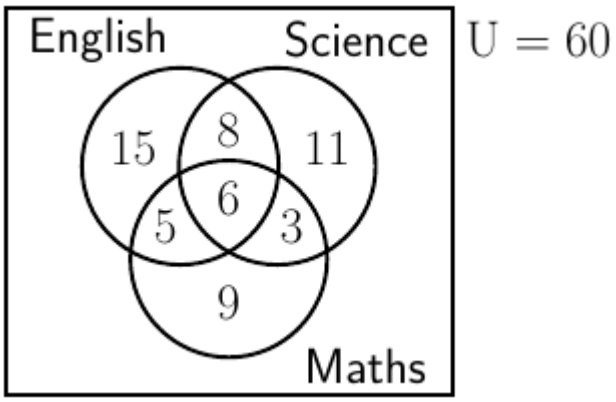
Q71. If A $ B means A is the husband of B, A # B means A is the brother of B and A * B means A is the mother of B, then what does P $ Q * R # S mean?

(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. Which of the following equipment is used in arc welding?

(a) Gl Wire
(b) Soldering wire
(c) Electrode
(d) Plastic stick

Q102. Which part of ball peen hammer is used for shaping and forming work?

(a) Peen
(b) Face
(c) Chik

(d) Wedge

Q103. Which equipment is used to measure the internal dimensions of a part, such as the internal diameter of a hole or tube?

(a) Inter-measuring micrometer
(b) Dial gauge
(c) Outer-measuring micrometer
(d) Bore dial gauge

Q104. The fuel injectors of the engine are fitted with:

(a) Cylinder
(b) Combustion chamber
(c) Clearance volume
(d) Cylinder head

Q105. The diameter of the crankshaft is measured:

(a) By bore dial gauge
(b) By feeler gauge
(c) By outer-measuring micrometer
(d) By Inter-measuring micrometer

Q106. Which type of file is used to file angles and corners that measure more than 60°?

(a) Triangular File
(b) Round file
(c) Square File
(d) Knife-edge file

Q107. What happens to the engine when the fan belt is too tight?

(a) Water pump stops working.
(b) The radiator gets hot.
(c) Engine gets hot.
(d) Engine starts running slowly.

Q108. When starting the engine, the starter motor pinion engages with the _____.

(a) Camshaft
(b) Flywheel ring gear
(c) Clutch
(d) Crankshaft

Q109. What material is a chisel made of?

(a) Lead
(b) High Carbon Steel
(c) Aluminum
(d) Tin

Q110. On which of the following does the capacity of an automobile battery depend?

(a) On battery size
(b) At temperature
(c) Over voltage
(d) On the number of plates and their size

Q111. The distance between the centerlines of the main journal and the crank shaft pin is called:

(a) Balance weight
(b) Crank throw
(c) Web

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(d) Pitch

Q112. Twist drill is specified according to its _____.

(a) speed, weight and diameter
(b) diameter, type of tool and material
(c) width, height and type of tool
(d) speed, height and material

Q113. The specific density of diesel is:

(a) 1.05
(b) 0.5
(c) 0.60
(d) 0.84

Q114. The fins at the top of the cylinder of a motorcycle engine are longer than those at the bottom because:

(a) hot air rises
(b) more space at the top
(c) Requires extra strength in the upper body
(d) they are in the non-exposed position

Q115. In lead acid battery:

(a) only electrical energy is stored
(b) only chemical energy is stored
(c) mechanical energy is stored, which is converted into electrical energy
(d) chemical energy is stored, which is converted into electrical energy

Q116. _____ is a high-current relay (switch) used to connect the battery to the starting motor.

(a) Starter motor
(b) Solenoid
(c) Ignition switch
(d) Crankshaft

Q117. When the specific density of the electrolyte of a starter battery decreases to 1.12 gm/cm3, what is the condition of the battery?

(a) in discharging condition
(b) in charging condition
(c) In condition of failure to provide starting current
(d) In condition of short circuit

Q118. Which of the following is a part of the cooling system?

(a) Piston
(b) Connecting rod
(c) Thermostat valve
(d) Crank pin

Q119. When riveting aluminium sheets, what material should the rivet be made of:

(a) Tin
(b) Mild steel
(c) Aluminum
(d) Copper

Q120. Which of the following switches is used in the starting system?

(a) Float switch
(b) Inertia switch
(c) Solenoid switch

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(d) Toggle switch

Q121. The large end of the connecting rod is connected to the crankshaft by _____.

(a) Wrist pin
(b) Piston pin
(c) Ghazan pin
(d) Crank pin

Q122. Sharpened flat chisels are used for:

(a) to cut wires
(b) to remove unwanted metals
(c) to chop nuts
(d) for providing finishing to metals

Q123. What happens when the water level in the radiator is low?

(a) Engine seizes.
(b) Engine doesn't start.
(c) Crankshaft does not rotate.
(d) Engine overheats.

Q124. What takes place during the compression stroke in a 4-stroke diesel engine?

(a) Exhaust gases come out.
(b) The air-fuel mixture is compressed.
(c) Air enters the combustion chamber.
(d) Only air is compressed in the combustion chamber.

Q125. The main function of a supercharger is -

(a) increase air density
(b) increasing the density of smoke in the exhaust
(c) increase oil consumption
(d) increase engine rpm

Q126. The time period before the valve opens is called:

(a) Valve gap
(b) Valve lead
(c) Overlap
(d) Lapping

Q127. The green light in the fault indicator lamp denotes:

(a) System requires immediate servicing
(b) Serious problem or security issue
(c) System needs to be repaired
(d) The system is working normally

Q128. The term EGR is related to -

(a) from vehicle exhaust system
(b) from vehicle braking system
(c) from the lubrication system of the vehicle
(d) from vehicle suspension system

Q129. What is the point angle of the center punch?

(a) 45°
(b) 30°
(c) 90°
(d) 60°

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Q130. What is the point angle of the drill used to drill copper?

(a) 80°
(b) 45°
(c) 30°
(d) 140°

Q131. Port is used:

(a) in single stroke engine
(b) in 6 - stroke engine
(c) in 2 - stroke engine
(d) in 4 - stroke engine

Q132. The equipment, which controls the acurrent or voltage flow and acts as a switch or gate for electronic signals is called:

(a) Relay
(b) Diode
(c) Transistor
(d) Insulator

Q133. What is the voltage generated by the spark plug?

(a) 1800 V
(b) 180000 V
(c) 18000 V
(d) 180 V

Q134. What is the function of bearing?

(a) Generate heat
(b) Ease of motion of shafts and gears
(c) Balancing shaft
(d) Rotate at high speed

Q135. What is the main cause of battery failures?

(a) Container failure
(b) Vent cap loose
(c) High electrolyte levels
(d) Incorrectly mixed electrolyte

Q136. Identify the part shown in the following figure.

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(a) Plain washer
(b) Lock plate
(c) Toothed lock washer
(d) Split lock washer

Q137. Torque wrench is used for:
(a) to tighten the brakes
(b) for adjusting bolts and nuts
(c) to tighten bolts and nuts
(d) to tighten the wires

Q138. Which of the following is used as electrolyte in lead acid battery?
(a) CH3 COOH
(b) H2SO4
(c) NaCl
(d) HNO3

Q139. The movement of piston from TDC to BDC is called:
(a) Stroke
(b) Volumetric efficiency
(c) BHP
(d) Clearance volume

Q140. Which of the following oil has the highest viscosity grade?
(a) SAE - 30
(b) SAE - 120
(c) SAE - 5
(d) SAE - 90

Q141. Which of the following instruments is used to reduce the smoke of the drainage?
(a) Lambda sensor
(b) Catalytic converter
(c) Turbulence Air Filter
(d) EGR valve

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Q142. Outer-measuring micrometer is used for:

(a) to measure internal diameter
(b) to measure depth
(c) to measure length
(d) to measure outer diameter

Q143. What form of energy is used by an automobile engine?

(a) Thermal energy
(b) Nuclear energy
(c) Electrical energy
(d) Chemical energy

Q144. Which of the following is used as a coating material in a catalytic converter?

(a) Tin, Lead and Brass
(b) Vanadium, Rhodium and Palladium
(c) Steel, Carbon and Aluminum
(d) Brass, Tin and Iron

Q145. In a diesel engine, the function of the fuel injector is:

(a) injecting fuel into the crankcase
(b) develop pressure to inject fuel
(c) injecting fuel into the combustion chamber
(d) supply fuel to the filter

Q146. In grinding wheels, the commonly used manufactured grinding is:

(a) Lead alloy
(b) Steel Alloy
(c) Aluminum oxide
(d) Tin alloy

Q147. The difference between the maximum and minimum sizes allowed for the manufacturing of a component is called:

(a) Allowance
(b) tolerance
(c) clearance
(d) air gap

Q148. What are the colors used on signs used for fire extinguisher equipment?

(a) Pictogram in white on a red background
(b) Pictogram in white on a green background
(c) Pictogram in white on a black background
(d) Pictogram in yellow on black background

Q149. The cross-section of the connecting rod is -

(a) L - section
(b) D - section
(c) P - section
(d) I - section

Q150. What is a multimeter used to measure?

(a) Only current and voltage
(b) Current, voltage and resistance
(c) Only AMP
(d) Only voltage

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Q151. Which of the following batteries is not commonly used in automobile engines in India?

(a) 18 V
(b) 12 V
(c) 20 V
(d) 6 V

Q152. Which of the following filters is fitted on the intake manifold?

(a) Air filter
(b) Fuel filter
(c) Oil filter
(d) Pollen filter

Q153. Which of the following is an example of an electrical insulator?

(a) Gold
(b) Plastic
(c) Aluminum
(d) Copper

Q154. Which of the following equipment can be used to check bending and incline of connecting rods?

(a) Surface plate
(b) Dial test indicator
(c) Connecting rod alignment jig
(d) Straight edge

Q155. The duration during which the inlet and exhaust valves remain open is called:

(a) Valve duration
(b) Valve lag
(c) Valve overlap
(d) Valve lead

Q156. Expand the term VTVT.

(a) Variable Valve Timing and Lift Electronic Control
(b) Variable Valve Variable Timing
(c) Variable Valve Timing
(d) Variable Timing Valve Train

Q157. In which type of EGR system, engine vacuum is used to operate the EGR valve?

(a) Piston controlled
(b) Vacuum controlled
(c) Water controlled
(d) Load controlled

Q158. _____ is a cutting tool used for cutting external threads.

(a) Tap
(b) Drill
(c) Reamer
(d) Die

Q159. Which of the following is tightened with wing nuts?

(a) Air cleaner
(b) Tappet
(c) Valve
(d) Head bolt

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Q160. Which of the following is a sensor?

(a) Spark plug
(b) Relay
(c) Crankshaft Position
(d) Injector

Q161. IC engine is divided into three parts called _____.

(a) Crankcase, Sump & Oil Pump
(b) Cylinder head, Piston and Crankshaft
(c) Cylinder block, Camshaft and Crankshaft
(d) Cylinder head, Cylinder block and Crankcase

Q162. Which of the following can be measured using an inter-measuring micrometer?

(a) Outer diameter of pipes
(b) Outer diameter of ball bearing
(c) Head Surface Diameter
(d) Inner diameter of pipes

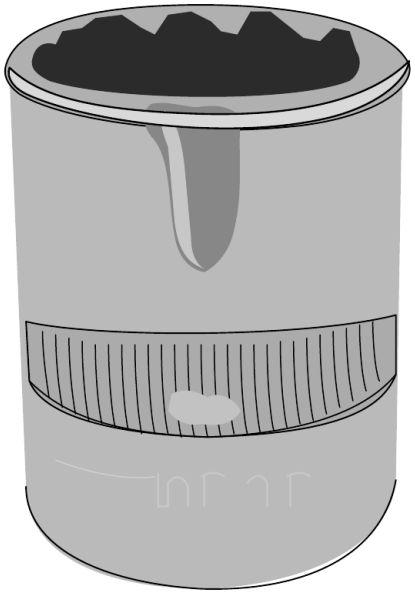
Q163. In a diesel engine, the starter motor is a:

(a) DC series motor
(b) DC shunt motor
(c) single-phase AC motor
(d) synchronous motor

Q164. What is the specific density of a fully charged battery?

(a) 0.290
(b) 1.110
(c) 1.200
(d) 1.290

Q165.



What is the name of the device shown in the picture?

(a) Scale
(b) Torque wrench
(c) Screwdriver
(d) Socket spanner

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Q166. Which of the following orders best describes how the fuel feed system's components are arranged in common rail direct injection?

(a) Fuel Filter, Fuel Tank, Common Rail, Low Pressure Fuel Pump, High Pressure Fuel Pump, Injector & Engine
(b) Fuel Tank, Low Pressure Fuel Pump, Fuel Filter, High Pressure Fuel Pump, Common Rail, Injector & Engine
(c) Fuel Tank, High Pressure Fuel Pump, Common Rail, Low Pressure Fuel Pump, Fuel Filter, Injector & Engine
(d) Fuel Tank, Low Pressure Fuel Pump, Fuel Filter, Injector, Engine, High Pressure Fuel Pump and Common Rail

Q167. A two-stroke diesel engine is used in:

(a) Marine application
(b) road transport vehicles
(c) fork lift
(d) Spacecraft

Q168. Which of the following is an example of a variable resistance sensor?

(a) cam position sensor
(b) Throttle position sensor
(c) Crank position sensor
(d) Oxygen sensor

Q169. In IC engines, the inlet air temperature sensor is installed:

(a) on camshaft
(b) on the exhaust manifold
(c) on crankshaft
(d) on inlet manifold

Q170. An injector and pump combined into one unit above each cylinder controlled by a camshaft is called:

(a) Distributor pump
(b) Jerk pump
(c) Unit injector
(d) Inline pump

Q171. Which of the following term is not related to battery?

(a) Electrolyte
(b) Bendix
(c) Vent cap
(d) Cell divider

Q172. Which of the following is not a part of the turbocharger?

(a) Thrust bearing
(b) Compressor wheel
(c) Turbine wheel
(d) Muffler

Q173. Hacksaw blades have standard lengths:

(a) 100 mm
(b) 150 mm
(c) 250 mm
(d) 200 mm

Q174. What is the full form of RTV in the context of RTV sealer?

(a) Road Tyre Vulcanising
(b) Room Temperature Vulcanising
(c) Restricted Temperature Voltage
(d) Rigid Thickness Volatile

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Q175. A centre punch is used for:

(a) drilling on base plates
(b) point marking
(c) chipping metal
(d) cutting metal

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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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
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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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