RRB ALP Mechanic Diesel 21 Jan 2019 Official Paper (Shift 2) (Previous Year Paper)

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

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PART A

Q1. Find mass (in gm) of a gold coin of radius 2 cm and thickness 0.05 cm. (Density of gold 19.3 gm/cm^3)

(a) 12.1
(b) 0.06
(c) 6.1
(d) 0.03

Q2. _____ affects the atoms in living cells and thereby damages their genetic material (DNA).

(a) Chlorinated water
(b) Chloroform
(c) Benzene vapours
(d) Ionising radiation

Q3. What is the binary equivalent of decimal 413?

(a) 110011101
(b) 100111111
(c) 110110111
(d) 111001001

Q4. _____ was discovered by the Scottish physician Daniel Rutherford in 1772.

(a) Helium
(b) Hydrogen
(c) Chlorine
(d) Nitrogen

Q5. Find the work done (in joules) in moving a charge of 1.6 coulombs across a potential difference of 0.8 V.

(a) 1.28
(b) 2
(c) 2.56
(d) 0.5

Q6. Who founded Project Nanhi Kali in 1996?

(a) Anand Mahindra
(b) Ratan Tata
(c) Narayana Murthy
(d) Azim Premji

Q7. Hawa Mahal is a palace in _____.

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

(d) Udaipur

Q8. The difference between the two binary numbers 10010000 and 1111001 is:

(a) 11101
(b) 11011
(c) 10111
(d) 10011

Q9. A/An _____ is a pointing and drawing device shaped like a pen. It is used on a touch screen.

(a) stylus
(b) flag
(c) cursor
(d) index

Q10. Name the author of 'The Incredible Adventure of Professor Shonku'.

(a) Rahul Bose
(b) Ritwik Ghatak
(c) Rabindranath Tagore
(d) Satyajit Ray

Q11. A body of mass 60 kg weighs 222 N on Mars. What is the acceleration due to gravity (in m/s^2) on Mars?

(a) 19.8
(b) 13.32
(c) 3.7
(d) 4.9

Q12. In the finals of Indian Premier League (IPL) in 2018, Chennai Super Kings played against _____.

(a) Royal Challengers Bangalore
(b) Kolkata Knight Riders
(c) Sun Risers Hyderabad
(d) Mumbai Indians

Q13. A drum of mass 'm' kg was rolled down a ramp. At the bottom of the ramp its kinetic energy was 10 kJ and velocity was 20 m/s. With what velocity (in m/s) was it pushed down the ramp if its initial kinetic energy was 625 J?

(a) 5 m/s
(b) 7.5 m/s
(c) 10 m/s
(d) 2.5 m/s

Q14. A common drug in a first aid box is Ibuprofen. When should Ibuprofen be taken?

(a) To ease indigestion and heartburn
(b) To aid in clotting of blood
(c) To bring relief from asthma
(d) To treat pain, fever and inflammation

Q15. Classical musician TR Mahalingam is associated with which musical instrument?

(a) Mridangam
(b) Santoor
(c) Flute
(d) Tabla

Q16. A car of 500 kg mass has a kinetic energy of 64 kJ. Find its speed (in m/s).

(a) 16
(b) 48
(c) 64

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(d) 32

Q17. The electric _____ between two points in an electric circuit carrying some current is the work done to move a unit charge from one point to the other.

(a) resistance
(b) charge
(c) potential difference
(d) current

Q18. Coffee, spinach, onion and tea in our diet mostly provide us with which of the following elements as food?

(a) Fluoride
(b) Chloride
(c) Iodine
(d) Sodium

Q19. Which organisation comprises of two institutions: The International Bank for Reconstruction and Development (IBRD) and The International Development Association (IDA)?

(a) International Chamber of Commerce
(b) The World Bank
(c) The International Monetary Fund
(d) International Finance Corporation

Q20. Find the current (in mA) flowing through a wire of resistance 25 kΩ when a potential difference of 12.5 V is applied across it.

(a) 0.5
(b) 2
(c) 5
(d) 0.2

Q21. _____ is the fibre remaining after the extraction of the sugar-bearing juice from sugarcane.

(a) Forage
(b) Cullet
(c) Bagasse
(d) Compost

Q22. The apparent mass of a piece of metal when fully immersed in water is 60 gm. If the relative density of this metal piece is 2.5, find its actual mass (in gm)?

(a) 300
(b) 40
(c) 400
(d) 100

Q23. Which of the following folk dances is from Punjab?

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

Q24. The circumference of a planet is 36,000 km. If the planet makes no other movement and takes 20 hours for one complete rotation, what is the speed of a point on its equator?

(a) 400 m/s
(b) 500 m/s
(c) 200 m/s
(d) 300 m/s

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Q25. 200° Celsius = _____ Fahrenheit

(a) -73°
(b) -328°
(c) 392°
(d) 73°

Q26. A/An _____ is a special high-speed storage mechanism.

(a) interface
(b) board
(c) cache
(d) host

Q27. Which singer entered the Guinness World Records for the most single studio recordings?

(a) Asha Bhosale
(b) Mohammad Rafi
(c) Lata Mangeshkar
(d) Kishore Kumar

Q28. If a box of mass 25 kg is pushed 15 m by a force of 'F' N and work done in the process is 480 J. Find F:

(a) 50
(b) 32
(c) 16
(d) 25

Q29. Which of the following gases is NOT a major greenhouse gas that causes climate change?

(a) Carbon dioxide
(b) Methane
(c) Carbon monoxide
(d) Nitrous oxide

Q30. Which of the following is the correct relation between potential difference 'V' across a metal wire of resistivity 'ρ', length 'L', and area of cross-section 'A' through which a charge 'Q' flows in 't' seconds?

(a) VρQ = AtL
(b) VLt = AQρ
(c) VAt = QρL
(d) VQt = AρL

Q31. Which of the following substances has the highest density?

(a) Gold
(b) Mercury
(c) Copper
(d) Iron

Q32. Two resistors of R Ω and 20 Ω are connected in parallel to get an effective resistance of 15 Ω. Find R.

(a) 40
(b) 60
(c) 50
(d) 30

Q33. The efficiency of a pump is 50%. It lifts 2 tonnes of water by 60 m in 20 minutes. Find the input power (in kW) of the pump.

(a) 4
(b) 1
(c) 2
(d) 3

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Q34. The ideals of Liberty, Equality and Fraternity enshrined in the Constitution of India are borrowed from the constitution of _____.

(a) Japan
(b) Unites States of America
(c) France
(d) Soviet Union

Q35. Select the option that is related to the third word on the same basis as the second word is related to the first word.
Lawyer : Judge ? Teacher : ?

(a) Student
(b) Classroom
(c) School
(d) Principal

Q36. The weights of 3 boxes are 4, 5 & 11 kilograms. Which of the following CANNOT be the total weight, in kilograms, of any combination of these boxes?

(a) 20
(b) 16
(c) 17
(d) 15

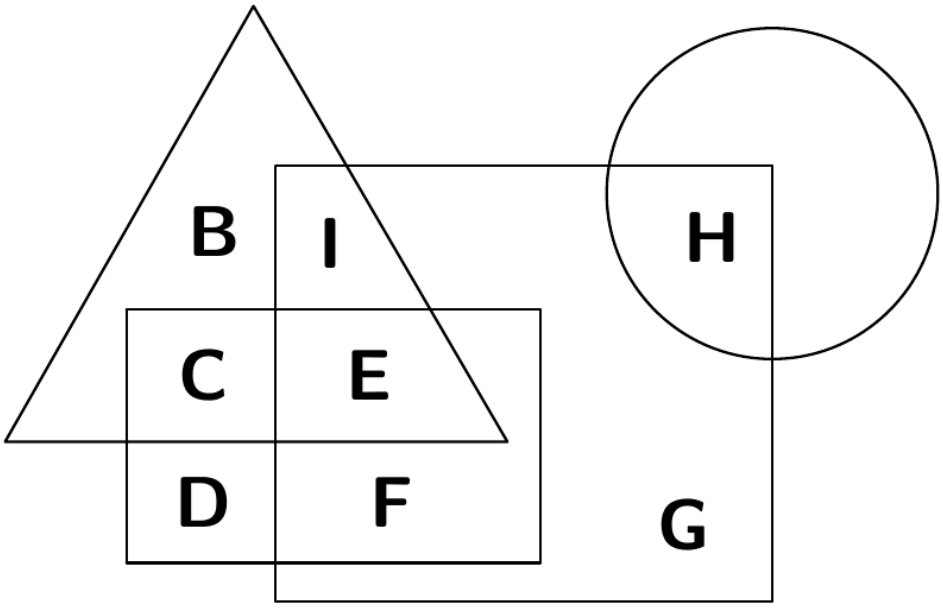
Q37. Select the option that is related to the third word on the same basis as the second word is related to the first word.
Sugarcane : Jaggery ? Coconut : ?

(a) Coir
(b) White
(c) Seashore
(d) Fruit

Q38. E said to F, “You are my son’s wife’s father-in-law.” How is F related to E?

(a) F is the husband of E
(b) F is the wife of E
(c) F is the brother-in-law of E
(d) F is the father of E

Q39. In the following figure, the triangle represents boxers, the square represents priests, the circle represents British and the rectangle represents men. Which set of letters represents men who are either boxers or priests?



(a) EFH

(b) CEI
(c) CEF
(d) FGH

Q40. Here are some words from an artificial language.

Nor usi means bat wing

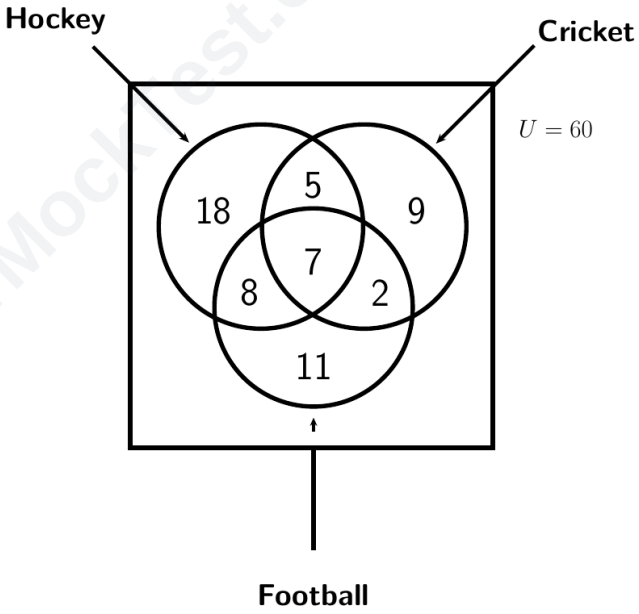
Od usi means bat man

Od zul means super man

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

(a) gifod
(b) nadzul
(c) ludnor
(d) tudusi

Q41. 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?



(a) 51
(b) 7
(c) 15
(d) 8

Q42. In a certain code language, STOLE is coded as 39468 and RICH is coded as 5271. Using the same code language, word THIS will be coded as:

(a) 7583
(b) 3274
(c) 9283
(d) 9123

Q43. What is the angle between the hour hand and the minute hand at quarter to five?

(a) 135.5°
(b) 115.5°
(c) 147.5°
(d) 127.5°

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Q44. Consider that 5 # 11 = 4; 13 # 7 = 5; 10 # 22 = 8. Then what is the value of 10 # 2 = ?

(a) 3
(b) 8
(c) 12
(d) 20

Q45. 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.

II. All restaurants have to be renovated when their furniture becomes old.

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

Q46. 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.

2. No cabins are cottages.

Conclusion:

I. Some cabins are huts.

II. Some cottages are huts.

III. All huts are cottages.

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

Q47. 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 judgements of the higher judiciary, where law

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

Q48. Choose the word that is different from the rest.

(a) Coir
(b) Cotton
(c) Wool
(d) Jute

Q49. 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 with commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.

Statement:

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

Conclusion:

I. Some shoes are boots.

II. Some sneakers are boots.

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

Q50. A seller starts on her daily routine. She walks 7 km north, then turns west and walks 6 km, then turns south and walks 2 km, then turns west and walks 3 km, then turns to her left and walks 5 km. Where is she now with reference to her starting position?

(a) 3 km west
(b) 9 km west
(c) 3 km east
(d) 9 km east

Q51. The sentences given in the question, which 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.

Patty the milkmaid had just finished milking her cow and had two full pails of fresh creamy milk.

A-'Once I get the money, I'll buy a chicken', she thought.

B-She put both pails on a stick and set off to the market to sell her pails of milk.

C-This chicken will lay tens of eggs.

D-Along the way she started to think of all the milk in her pails and all the money she would get for them.

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

Q52. If A $ B means A is the sister of B, A # B means A is the mother of B and if A × B means A is the father of B, then what does P × Q $ R # S mean?

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

Q53. In a certain code language, '+' represents '×', '÷' represents '+', '-' represents '÷' and '×' represents '-'. Find out the answer to the following question considering that language as base.

9 × 3 ÷ 4 + 10 - 8 = ?

(a) 11
(b) 13
(c) 30
(d) 12

Q54. In the following question, which set of letters will logically complete the below letter series when the letters in the set are placed in the gap sequentially from left to right.

c_ax_za_cz_xc_a

(a) bbyyc
(b) bybyb
(c) bbyyb
(d) bbxyc

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Q55. 5 years ago, father's age was 8 times Rohan's age. 5 years hence, the ratio of father's age to Rohan's age will be 10 : 3. What is Rohan's present age?

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

Q56. One statement is given followed by two assumptions, I & II. You have to consider the statement to be true, even if it seems to be at variance from commonly known facts. You are to decide which of the given assumptions is/are implicit in the given statement.

Statement: Teachers should never scold students who make repeated mistakes.

Assumptions:

I. Students do not make repeated mistakes intentionally.

II. Negative reinforcements are NOT a good method to improve student performance.

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

Q57. Find the missing number in the given series.

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

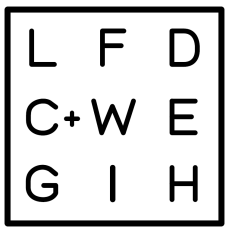
(a) 0.3
(b) 0.2
(c) 0.1
(d) 0

Q58. Choose the set of letters that is different from the rest.

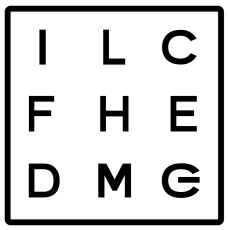
(a) NQT
(b) DGJ
(c) EHK
(d) TQN

Q59. Choose the figure that is different from the rest.

(a)

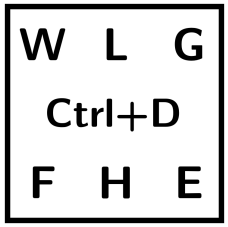


(b)

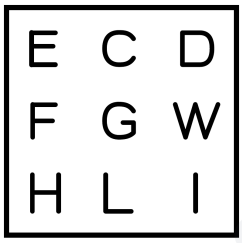


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(c)



(d)



Q60. Pipe A can fill a tank in X hours. Pipe B can empty it in 15 hours. If both the pipes are opened together, then the tank will be filled in 7 hours and 30 minutes. Find X.

(a) 10
(b) 5
(c) 9
(d) 8

Q61. The mean of the numbers 1, 4, 9, X, 12, 14, 15 and 16 is 10. Find the mode.

(a) 11
(b) 10
(c) 12
(d) 9

Q62. What is the area (in cm^2) of a rhombus if the lengths of its diagonals are 18 cm and 14 cm?

(a) 504
(b) 63
(c) 126
(d) 252

Q63. What is the difference between the compound interests on a sum Rs. 10,000 for 1 year at 10% per annum, when compounded yearly and half-yearly?

(a) Rs. 10
(b) Rs. 25
(c) Rs. 5
(d) Rs. 50

Q64. Two trains start at the same time. Train A travelling at an average speed of 54 km goes from city M to city N, while Train B goes from city N to city M. The distance between the two cities is 960 km. Find the average speed (in km/hr) of train B, if both trains cross each other after 8 hours?

(a) 66
(b) 60
(c) 72
(d) 76

Q65. Working together, if A, B and C can finish a task in 4 days. However, after starting the task, B quits and A and C finish the remaining task in 6 days. How many days would B take to finish if he had to perform the task alone?

(a) 9
(b) 8

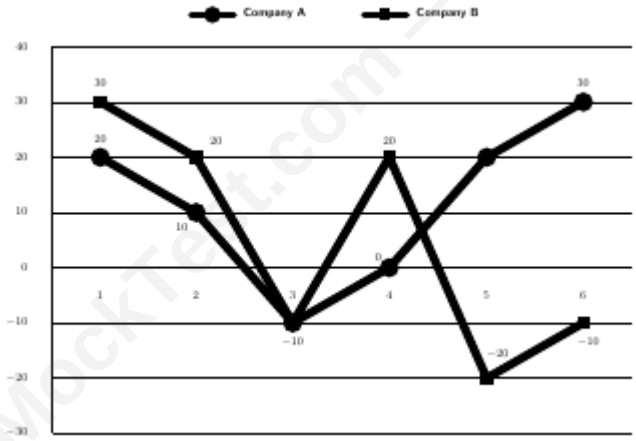
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(c) 12
(d) 15

Q66. A can finish 25% of a task in 3 days and B can finish half of the task in 18 days. If they work on it together, in how many days can they finish the task?

(a) 12
(b) 9
(c) 6
(d) 15

Q67. The line graphs show the profit (in lakh rupees), for 6 years, of two companies A and B. The ratio of the cumulative profits for these 6 years of Company B to Company A is:



(a) 7 : 3
(b) 3 : 7
(c) 8 : 7
(d) 7 : 8

Q68. Find the slope of the line given by the equation 4x + 6y = 9.

(a) (-3)/2
(b) 2/3
(c) (-2)/3
(d) 3/2

Q69. If 25% of a = b, then b% of 160 is same as:

(a) 80% of a
(b) 60% of a
(c) 40% of a
(d) 50% of a

Q70. Find the least common multiple of 48 and 54.

(a) 144
(b) 432
(c) 342
(d) 234

Q71. If a + b = 9 and $a^2 + b^2 = 53$, then find the value of ab.

(a) 20
(b) 8
(c) 14
(d) 18

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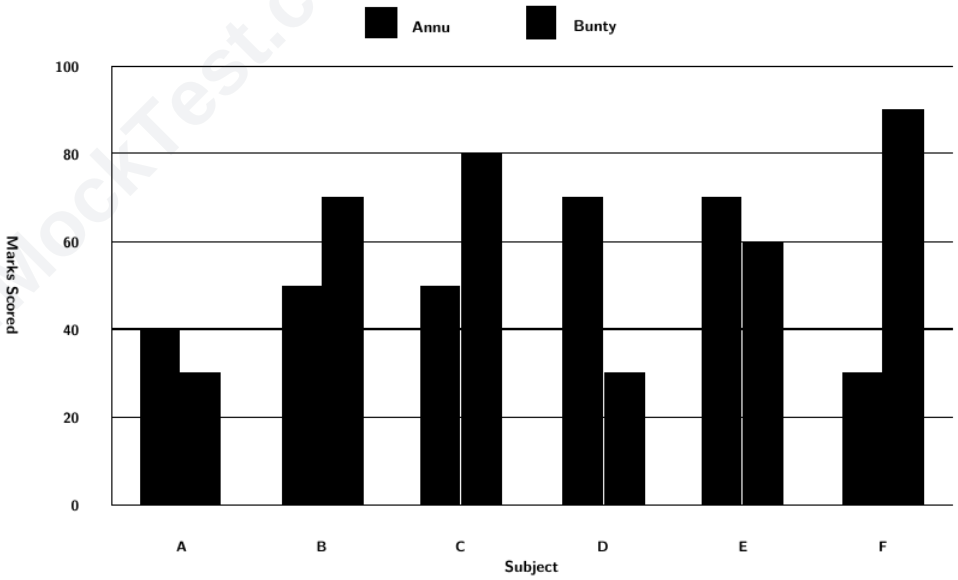
Q72. (0.1 × 0.1 × 0.1 + 0.04 × 0.04 × 0.04) ÷ (0.2 × 0.2 × 0.2 + 0.08 × 0.08 × 0.08) = _____.

(a) 0.08
(b) 0.125
(c) 0.025
(d) 0.02

Q73. Due to engine trouble, an Express train goes at 9/10^(th) of its usual speed and arrives at 2 : 34 pm instead of 2 : 28 pm. At what time did it start?

(a) 1:32 pm
(b) 1:34 pm
(c) 1:36 pm
(d) 1:40 pm

Q74. The bar graph shows the marks scored by Annu and Bunty in their exam, which had 6 papers of 100 marks each. If Bunty had scored 25% less in Paper C and 10 marks more in paper A, then he would have scored how much more than Annu in the exam?



(a) 16.67%
(b) 10%
(c) 12.25%
(d) 15%

Q75. A trader buys 200 kg of grain for Rs. 8,000. 4% of this grain is lost in transportation. At what rate should he sell the rest to earn 20% profit?

(a) Rs. 45/kg
(b) Rs. 48/kg
(c) Rs. 54/kg
(d) Rs. 50/kg

Q76. A retailer sells an item for Rs. 486 and he makes 8% profit. If he were to sell that item for Rs. 414, then he would make:

(a) 10% loss
(b) 8% loss
(c) 12% loss
(d) 4% loss

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Q77. If the curved surface area of a cone of radius 14 cm is 2200 cm², find its height (in cm).

(a) 48
(b) 56
(c) 49
(d) 50

Q78. 12 – 20% of (42 × 5 ÷ 15 – 18 × 10 ÷ 15 + 8) = _____

(a) 8
(b) 12
(c) 6
(d) 10

Q79. The ratio of the present salaries of Vinod and Manoj is 6 : 7. If both of them get their salaries increased by Rs. 16,000, then the ratio becomes 8 : 9. What is the present salary of Manoj?

(a) Rs. 48,000
(b) Rs. 72,000
(c) Rs. 56,000
(d) Rs. 64,000

Q80. √0.015625 × √0.0256 = ?

(a) 0.004
(b) 0.04
(c) 0.02
(d) 0.002

Q81. If 5x/2 - 5/3(3/2 + 4x/3) = 5/6 then the value of x is:

(a) 4
(b) 12
(c) 3
(d) 6

Q82. A pilgrim travelled a distance of 50 km in 7.5 hours. He travelled partly on foot at 4 km/hr and partly on a bullock cart at 12 km/hr. The distance travelled on foot is _____ km.

(a) 20
(b) 30
(c) 26
(d) 24

Q83. A man willed 2/7^(th) of his wealth to his wife. 1/3^(rd) of the remaining wealth to his son, and the rest was divided equally between the three daughters. If each daughter gets 2/3^(rd) of the son's share and each of the three daughters gets Rs. 2,00,000, then what was the man's wealth?

(a) Rs. 8,60,000
(b) Rs. 10,50,000
(c) Rs. 12,60,000
(d) Rs. 15,75,000

Q84. 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 5 kJ of heat, then find its heat capacity.

(a) 250 Jkg^(-1)K^(-1)
(b) 200 JK-1
(c) 325 Jkg-1K-1
(d) 500 JK-1

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Q85. A/an _____ circle is a circular centre line on a drawing containing the centres of holes about a common centre.

(a) axis
(b) bolt
(c) concentric
(d) peripheral

Q86. The ratio of the shorter side of an A4 sheet to the longer side of an A3 sheet is _____.

(a) 1 : 1
(b) 1 : √2
(c) 1 : 4
(d) 1 : 2

Q87. Which of the following is an example of a third-class lever?

(a) Nut cracker
(b) See-saw
(c) Ice tongs
(d) Wheel barrow

Q88. If 2.5 l of hot water at 85°C is mixed with 4.5 l of cold water then the temperature of the cold water rises by 15°C when equilibrium is reached. Find the initial temperature (in °C) of the cold water assuming no heat is lost.

(a) 25
(b) 48
(c) 43
(d) 15

Q89. A/an _____ is an inclined edge that is NOT at right angle to the joining surface.

(a) bevel
(b) ogee
(c) bullnose
(d) dupont

Q90. By how many degrees celsius should an 800 g calorimeter made of aluminium be heated so that it absorbs 43.2 kJ of heat? Specific heat capacity of aluminium is 0.9 Jg^(-1)K^(-1).

(a) 42.5
(b) 60
(c) 120
(d) 67.5

Q91. _____ is the distance from the pitch circle to the bottom of the tooth space in a gear.

(a) Hub
(b) Addendum
(c) Dedendum
(d) Bore

Q92. Find the velocity ratio of a pulley system if it has an efficiency of 50%. It lifts a load of 250 N on applying an effort of 100 N.

(a) 2.5
(b) 7.5
(c) 10
(d) 5

Q93. The notation φ7 means _____.

(a) depth of wall 7 units
(b) radius 7 units
(c) diameter 7 units

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(d) length of edge 7 units

Q94. The specific latent heat of fusion of lead is 23 Jg^(-1). Find the mass of a piece of lead if it releases 2116 J of heat when it freezes at its freezing point of 327°C.

(a) 62
(b) 92
(c) 600
(d) 460

Q95. Find the volume (in cm^3) of a piece of metal of density 5000 kg/m^3 and which weighs 10.8 N. (Use g = $10m/s^2$)

(a) 216
(b) 21.6
(c) 54
(d) 540

Q96. A uniform meter scale weighs 75 g. It is pivoted at the 50 cm mark. A 40 g mass is placed at the 20 cm mark and a 50 g mass is placed at the 90 cm mark. Where should a 20 g mass be placed so that the scale is in equilibrium?

(a) At the 54 cm mark
(b) At the 96 cm mark
(c) At the 4 cm mark
(d) At the 10 cm mark

Q97. cot 30° - 1over2 × cosec 60° =

(a) √2over√3
(b) 2over3
(c) 2over√3
(d) √2over3

Q98. In a certain gear train, the driver has _____ teeth while the follower has 10 teeth. For every 16 turns of the driver, the follower turns 40 times.

(a) 15
(b) 25
(c) 32
(d) 8

Q99. Watt/steradian is the unit of _____.

(a) electric conductance
(b) permeability
(c) permittivity
(d) radiant intensity

Q100. Siemens is the unit of _____.

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

PART B

Q101. The crankshaft end play is measured by using:

(a) Feeler gauge
(b) Micrometer
(c) Bore dial gauge
(d) Dial gauge

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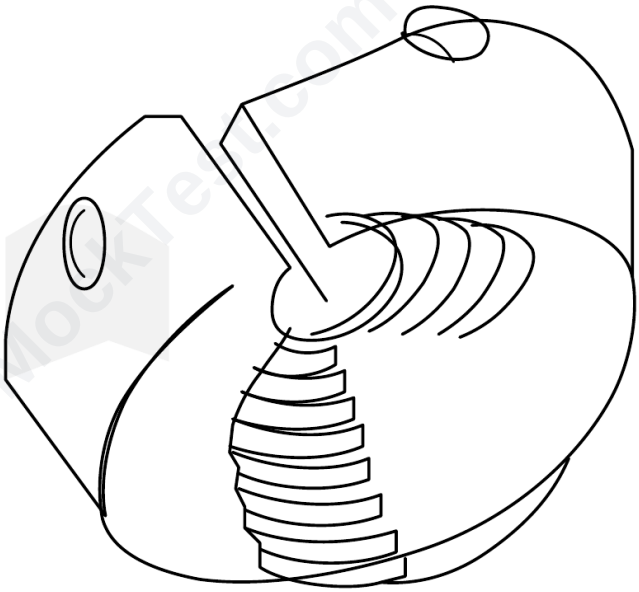
Q102. In a four stroke engine, each cylinder has:

(a) Six valves
(b) Two valves
(c) One valve
(d) Five valves

Q103. The substance which is used for lubrication is called:

(a) Lubricant
(b) Antifreeze
(c) Coolant
(d) Liquified natural gas

Q104.



Identify the type of Die in the above Fig.

(a) Circular split Die
(b) Adjustable screw plate die
(c) Round Die
(d) Die nut

Q105. What is the liner called, if the coolant is directly in contact with the cylinder liner?

(a) Hard liner
(b) Wet liner
(c) Dry liner
(d) Soft liner

Q106. What is the function of an engine?

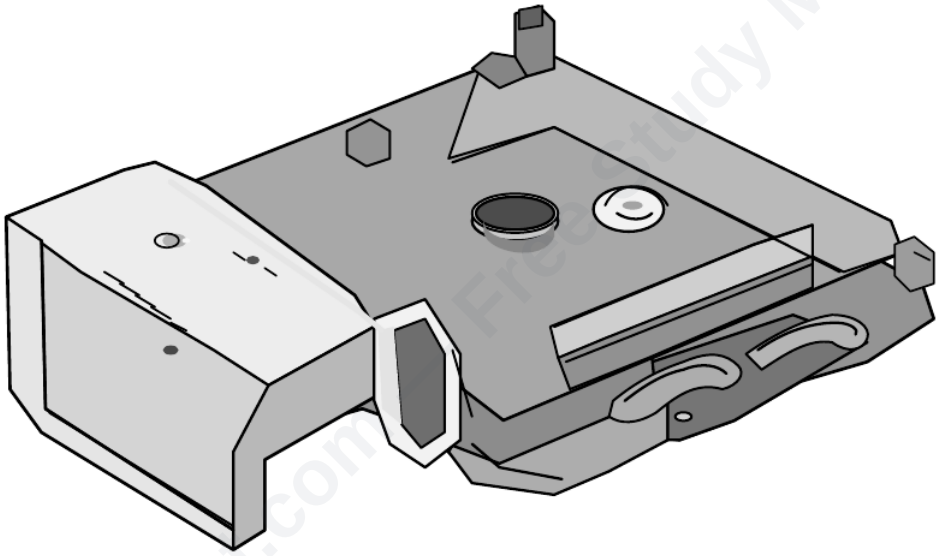
(a) It controls the vehicle.
(b) It steers the wheels.
(c) It stops the vehicle.
(d) It converts heat energy into mechanical energy.

Q107. Expand EDC.

(a) Electronic digital centre
(b) Electronic diesel control
(c) Electrical diesel centre
(d) Electrical digital control

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Q108.



Identify the name of the device from the above figure

(a) Common rail
(b) Fuel injector
(c) CRDI Pump
(d) Electronic diesel control

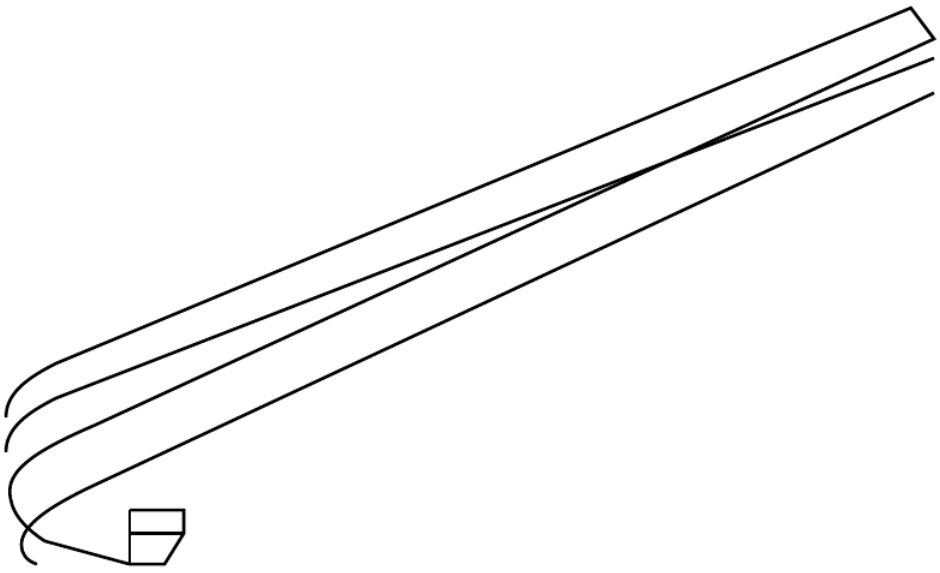
Q109. The main function of catalytic converter is:

(a) Reduce engine noise
(b) Increase fuel efficiency
(c) Reduce emission
(d) Increase engine RPM

Q110. Exhaust valve is made up of which of the following?

(a) Nickel chromium steel
(b) Silicon chromium steel
(c) Aluminium alloy
(d) High carbon steel

Q111.



Find the name of the tool in the above Figure

(a) Torque wrench
(b) Screw driver
(c) Scale
(d) Allen key

Q112. The space (volume) between the cylinder head and the piston head, when the piston is at TDC is called:
(a) Stroke volume
(b) Swept volume
(c) Total volume
(d) Clearance volume

Q113. In the diesel engine, intake manifolds are connected to:
(a) Cylinder Block
(b) Crankcase
(c) Sump
(d) Cylinder Head

Q114. What is the function of a sensor in electronic diesel control system engine?
(a) Senses the information in the form of physical and chemical variables
(b) Controls the pressure
(c) Does the mechanical work
(d) Controls the fuel supply

Q115. Drill chucks are held on the machine spindle by means of which of the following?
(a) Arbor
(b) Drift
(c) Chuck nut
(d) Draw-in-bar

Q116. Which of the following is an example of Multi-viscosity oil?
(a) SAE 20 W 40
(b) SAE 30 W
(c) SAE 20 S
(d) SAE 20

Q117. A 12 Volts Lead-Acid battery consists of:
(a) Three cells in parallel
(b) Three cells in series
(c) Six cells in series
(d) Six cells in parallel

Q118. A Bent snip is used for:
(a) Making holes on the sheet
(b) Cutting the sheet along the curved line
(c) Removing the burr
(d) Bending the sheet

Q119. In the actual valve timing diagram, the 'Inlet valve' closes at:
(a) 30° - 40° after TDC
(b) 60° - 80° after BDC
(c) 60° - 80° after TDC
(d) 30° - 40° after BDC

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Q120. "V" is a type of which of the following permanent joint?

(a) Riveting
(b) Welding
(c) Soldering
(d) Press fit

Q121. Which of the following is an example of an electrical conductor?

(a) Copper
(b) Porcelain
(c) Plastic
(d) Wood

Q122. Ammeter is used to measure which of the following?

(a) Current
(b) Power
(c) Voltage
(d) Resistance

Q123. Which of the following fuel is used in distributor-type fuel injection pumps?

(a) Kerosene
(b) Diesel
(c) Petrol
(d) Engine oil

Q124. Which of the following is not a type of muffler?

(a) Absorbent
(b) Resonance
(c) Baffle
(d) Radiant

Q125. A semiconductor device that allows current flow in one direction but resists it in another direction is called:

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

Q126. What is the purpose of the oxygen sensor?

(a) Monitor the oxygen in the exhaust gases as they leave the engine
(b) Reduce the exhaust temperature
(c) Reduce noise and pressure
(d) Convert harmful gases to useful gases

Q127. For cutting solid brass, the most suitable pitch of a hacksaw blade is:

(a) 0.8 mm
(b) 1.4 mm
(c) 1.8 mm
(d) 1 mm

Q128. Internal V threads are checked by:

(a) Scale
(b) Thread plug gauge
(c) Thread ring gauge
(d) Feeler gauge

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Q129. The exhaust pipe is made of:

(a) Zinc alloy
(b) Ferrous alloy
(c) Aluminum alloy
(d) Copper alloy

Q130. Which diode is used for voltage regulation?

(a) Zener diode
(b) Signal diode
(c) Rectifier diode
(d) Varicap diode

Q131. What is the cause for engine oil getting mixed with the coolant?

(a) A broken / damaged main journal bearing
(b) A broken / damaged head gasket
(c) A broken / damaged big end bearing
(d) A broken / damaged crankshaft

Q132. Hydraulically Actuated Electronically controlled Unit Injector is used in:

(a) Auto-rickshaws
(b) Trucks
(c) Cars
(d) Motorbikes

Q133. Firing order of six cylinder diesel engine:

(a) 654321
(b) 124356
(c) 153624
(d) 123456

Q134. Where is the thermostat valve connected to pressured water cooling system?

(a) Water pump inlet
(b) Water jacket
(c) Below the radiator
(d) Water outlet elbow

Q135. A feeler gauge is used for which of the following?

(a) Adjusting the parts for play
(b) Checking radii of jobs
(c) Checking the gap between mating parts
(d) Checking accuracy of holes

Q136. The crankshaft is made of which of the following material?

(a) Cast iron
(b) Heat treated alloy steel
(c) Aluminum alloy
(d) High speed steel

Q137. Design and study of the work environment to address the physical and psychological demands of individuals are classified as:

(a) Ergonomics
(b) Cumulative trauma disorders
(c) Tag in regulations
(d) Tag out regulations

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Q138. Expand the term MIL.

(a) Miss integrated lamp
(b) Minimum illumination lamp
(c) Malfunction Indicator Lamp
(d) Most important lamp

Q139. Piston rings are placed in the _____.

(a) Piston skirt
(b) Piston pin
(c) Piston grooves
(d) Piston crown

Q140. In I-Head engine, the valves are arranged in the:

(a) Cylinder head and cylinder block
(b) Cylinder block
(c) Cylinder head
(d) Cylinder block and crankcase

Q141. Which one of the following is used to measure the ovality of a cylinder bore?

(a) Vacuum gauge
(b) Height gauge
(c) Pressure gauge
(d) Dial bore gauge

Q142. A flywheel is made of:

(a) Tin
(b) Lead
(c) Cast iron
(d) Copper

Q143. In a 3 way catalytic converter, reduction of nitrogen oxides to nitrogen and oxygen, is one of the following chemical reaction:

(a) $2CO + O2 \rightarrow 2CO2$
(b) $xH2x + 2 + [(3x + 1)/2] O2 \rightarrow xCO2 + (x + 1) H2O$
(c) $2NO_X \rightarrow xO2 + N2$
(d) $2NO_X \rightarrow xO2 + 2CO2$

Q144. Expand the term i-VTEC.

(a) Variable valve timing
(b) Continuous variable valve timing
(c) Intelligent Variable valve timing and lift electronic control
(d) Variable valve timing and lift electronic control

Q145. What does "NDT" stand for?

(a) Non-driving test
(b) Non-destructive test
(c) Non-dry test
(d) Non-dial test

Q146. In oxy-acetylene welding, the mixture of oxygen and acetylene in neutral flame is:

(a) 1 : 3
(b) 1 : 1
(c) 1 : 2
(d) 1 : 4

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Q147. Which device does not allow the coolant from the engine to the radiator till the engine temperature reaches at normal working temperature?

(a) EVAP Valve
(b) EGR Valve
(c) Thermostat Valve
(d) Throttle Valve

Q148. Example of solid lubricant is:

(a) Graphite
(b) Oil
(c) Diesel
(d) Grease

Q149. A substance that acts as a conductor partially, depending on its operation and application is called:

(a) Actuator
(b) Semi-conductor
(c) Sensor
(d) Conductor

Q150. The cutting angle for chipping mild steel is:

(a) 90°
(b) 55°
(c) 30°
(d) 70°

Q151. In common rail direct injection system, the injectors are opened and closed by:

(a) Solenoid valve
(b) Poppet valve
(c) Reed valve
(d) CB Point

Q152. The compressor is a part of which of the following?

(a) Oil pump
(b) Water pump
(c) Fuel injection pump
(d) Turbocharger

Q153. A system that forces fresh air into the exhaust ports or catalytic converter to reduce HC and CO emissions is called:

(a) Cooling system
(b) Air Injection system
(c) Fuel injection system
(d) Lubrication system

Q154. If a four-stroke, 4 cylinder inline engine has 16 valves, the number of camshafts required to operate the 16 valves:

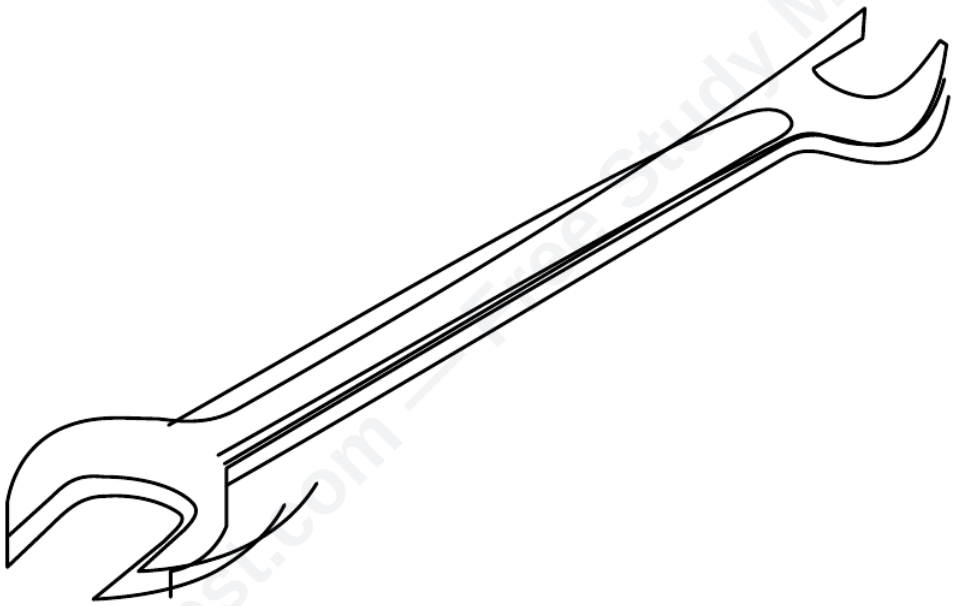
(a) 2
(b) 1
(c) 4
(d) 3

Q155. Engine back pressure is caused by:

(a) Fuel system
(b) Cooling system
(c) Exhaust system
(d) Air intake system

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Q156.



Find the name of the tool in the above figure.

(a) Double ended spanner
(b) Box spanner
(c) Tubular spanner
(d) Ring spanner

Q157. Which of the following are types of water circulations in a radiator?

(a) From engine to lower tank
(b) Lower tank to upper tank
(c) From engine to water tank
(d) Upper tank to lower tank

Q158. One working stroke for each revolution of the crankshaft is called:

(a) 3 stroke
(b) 6 stroke
(c) 4 stroke
(d) 2 stroke

Q159. How does the 'Ratchet stop' in the micrometer help?

(a) Control the pressure
(b) Hold the work piece
(c) Adjust zero error
(d) Lock the spindle

Q160. Which type of fuel feed pump is used in conventional inline fuel injection pump?

(a) Gear type
(b) Plunger type
(c) Vane type
(d) Electrical type

Q161. In the latest vehicle's cooling system, hose pipes are made up of:

(a) Hard rubber
(b) Cork rubber
(c) Synthetic rubber
(d) Teflon tape

Q162. A measure of fluid's resistance to flow is called:

(a) Freeze point
(b) Fire point
(c) Viscosity
(d) Cloud point

Q163. Supercharger is driven by:

(a) Crankshaft
(b) Motor
(c) Exhaust gas
(d) Camshaft

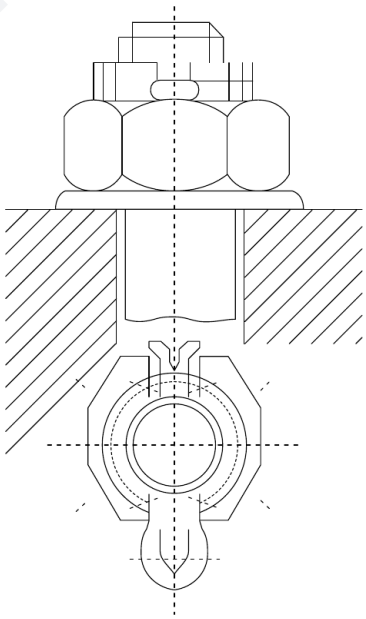
Q164. A magnetically operated switch used to make or break current flow in a circuit is called:

(a) Rectifier
(b) Fuse
(c) Voltmeter
(d) Relay

Q165. The cylinder head of I.C. Engine is made up of:

(a) Titanium
(b) Copper
(c) Cast Iron
(d) Aluminium

Q166. Identify the locking arrangement of the below figure.



(a) Wire fasteners
(b) Corrugated head screw
(c) Tab washers
(d) Castle nut with split pin

Q167. If the coolant is in indirect contact with the cylinder liner, then it is called:

(a) Dry liner
(b) Hard liner
(c) Wet liner
(d) Soft liner

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Q168. Expand the term NATRIP.

(a) National Audit Testing and R&D Indian Project
(b) National Automotive Testing and R&D Infrastructure Project
(c) Non-Automotive Testing and Registered Infrastructure Pvt. ltd
(d) National Alternator Testing and Registered Infrastructure Pvt. ltd

Q169. The ceramic coating protects the exhaust system from:

(a) Rust and corrosion
(b) Harmful chemical
(c) Ultraviolet radiation
(d) Engine vibration

Q170. Which of the following rotates immediately on giving the current to self-starter?

(a) Armature shaft
(b) Ring gear
(c) Body
(d) Flywheel

Q171. If the air and fuel mixture burns inside the engine cylinder, that engine is called as:

(a) Internal combustion engine
(b) Electrical engine
(c) Hydrogen engine
(d) External combustion engine

Q172. In Lead-Acid battery, electrolyte is the combination of:

(a) Methanol and distilled water
(b) Ethanol and soap water
(c) Sulphuric acid and wood alcohol
(d) Sulphuric acid and distilled water

Q173. Which of the following is the tool used for laying out large circles?

(a) Trammel
(b) Divider
(c) Jenny caliper
(d) Scriber

Q174. The bottom half portion of the cylinder block and sump together is called:

(a) Crankcase
(b) Cylinder head
(c) Sump
(d) Cylinder block

Q175. The clearance or gap between the cylinder wall and piston is called:

(a) Piston clearance
(b) Swept volume
(c) Clearance volume
(d) Total volume

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
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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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