RRB ALP Heat Engine 23 Jan 2019 Official Paper (Shift 3) (Previous Year Paper)

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

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PART A

Q1. Name the scientist who discovered bacteria ?

(a) Robert Koch
(b) James Chadwick
(c) Eugen Goldstein
(d) A V Leeuwenhoek

Q2. If a body has a specific gravity of less than 1, then it will float in/on _____.

(a) air
(b) water
(c) liquids
(d) mercury

Q3. Which of the following options does not have an SI base unit?

(a) Amount of substance
(b) Frequency
(c) Luminous intensity
(d) Electric current

Q4. How many medals did India win in Rio Olympics, 2016?

(a) 3
(b) 4
(c) 2
(d) 5

Q5. It is mainly due to the gravitational effect of the _____ on the rotating earth that the level of water in the sea rises and falls.

(a) Venus
(b) Mercury
(c) Moon
(d) Sun

Q6. Two resistance of 2Ω and 6Ω are connected in series and this combination is connected across a 12 V battery. Find the current in the 6Ω resistor.

(a) 3.5 A
(b) 1. 5 A
(c) 0.5 A
(d) 2.5 A

Q7. Substances that are broken down by biological processes are said to be _____.

(a) reusable
(b) non-biodegradabl
(c) non-reusable
(d) biodegradable

Q8. A software program that has been developed to harm other computers is called a/an _____.

(a) server
(b) LAN
(c) malware
(d) operating system

Q9. Kuchipudi has its roots in which Indian State?

(a) Arunachal Pradesh
(b) Kerala
(c) Andhra Pradesh
(d) Himachal Pradesh

Q10. Which Indian cricketer received the Padma Bhushan in 2018?

(a) MS Dhoni
(b) Virat Kohli
(c) Sachin Tendulkar
(d) Saurav Ganguly

Q11. JPEG stands for _____.

(a) Joint Program Experts Group
(b) Joint Program Executing Group
(c) Joint Photographic Experts Group
(d) Joint Program Experimental Group.

Q12. Two resistors, one of 12 Ω and the other of 24 Ω are connected in parallel. This combination is connected in series with a 22 Ω resistor and a 12 V battery. The current in the 12 Ω resistor is _____.

(a) (8/15) A
(b) (2/15) A
(c) (6/15) A
(d) (4/15) A

Q13. RK Narayan is famous for his book _____.

(a) The Room on the Roof
(b) Two Livers
(c) Malgudi Days
(d) A suitable Boy

Q14. _____ protection must be worn whenever noise levels exceed the noise exposure standard.

(a) Hearing
(b) Head
(c) Eye
(d) Foot

Q15. A wire of length 1 and radius r has a resistance R. The resistance of another wire made of the same material but having half its length and half its radius will be.

(a) 4R
(b) R/2
(c) 2R
(d) R

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Q16. Safety boots or shoes must be worn in designated areas to protect your _____ from falling objects.

(a) eye
(b) ear
(c) head
(d) feet

Q17. A cylindrical wire of length L and radius r has a resistance of R. The resistance of another wire of the same material but thrice its length and one-third its radius will be _____.

(a) 27R
(b) 9R
(c) R
(d) 3R

Q18. If a body is NOT homogeneous, then its density is a function of its _____.

(a) pressure
(b) acceleration
(c) position
(d) velocity

Q19. Two resistors of 10Ω and 20 Ω area connected in series and this combination is connected across a 30 V supply voltage. Find the voltage across the 10 Ω resistor.

(a) 20 V
(b) 10 V
(c) 5 V
(d) 15 V

Q20. Which one of these is a harvest festival?

(a) Teej
(b) Janmashtami
(c) Deepawali
(d) Onam

Q21. 86°F is equal to _____

(a) 20°C
(b) 30°C
(c) 34°C
(d) 10°C

Q22. Where is the Headquarters of UNESCO located?

(a) New York City
(b) Geneva
(c) Paris
(d) Washington DC

Q23. Name of the painter of famous painting, ‘Mahishasura’.

(a) MF Hussain
(b) Amrita Sher-Gil
(c) Raja Ravi Verma
(d) Tyeb Mehta

Q24. What is the work that needs to be done to increase the speed of a 1 kg ball from 2 m/s to 4 m/s?

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

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Q25. The Ajanta Caves in Maharashtra feature paintings and sculptures that depict _____ tales.

(a) Arabic
(b) Islamic
(c) Buddhist
(d) Maratha

Q26. The volume of a given amount of water _____ between 0°C to 4°C.

(a) is zero
(b) decreases
(c) remains constant
(d) increases

Q27. Two resistance of 2Ω and 6Ω are connected in series and this combination is connected across a 12 V bettery. Find the power supplied by the battery.

(a) 10 W
(b) 18 W
(c) 16 W
(d) 14 W

Q28. An object weighs X units on the earth. If we take the same object to the moon, its weight there will be _____.

(a) zero
(b) less than X
(c) equal to X
(d) more than X

Q29. A body starts from rest. Its displacement is proportional to _____ when its acceleration is constant.

(a) time squared
(b) velocity
(c) work
(d) time

Q30. A source of voltage V maintains a current i in a circuit. The energy supplied to the circuit by the source in time t is _____.

(a) Vit
(b) 1/Vit
(c) Vi/t
(d) V/it

Q31. Who was the first governor of the Reserve Bank of India?

(a) Sir James Braid Taylor
(b) KR Puri
(c) HVR Iyengar
(d) Sir Osborne A Smith

Q32. A car covers 400 m in 20 seconds. Find the average speed (in km/hr) of the car.

(a) 72
(b) 124
(c) 108
(d) 36

Q33. If $\sin\theta = 15/17$, then $\cot\theta = ?$

(a) 8/15
(b) 8/17
(c) 15/8
(d) 17/15

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Q34. In an examination, the highest score and the lowest score are different by 55 and the higher one was 9/4 times the lower one. Find the lowest score.

(a) 40
(b) 36
(c) 44
(d) 48

Q35. A number is as much greater than 50 as it is lesser than 84. What is the number?

(a) 65
(b) 66
(c) 68
(d) 67

Q36. If $x = \sqrt{125} \times \sqrt{30} \times \sqrt{6}$, then x is equal to:

(a) 175
(b) 125
(c) 136
(d) 150

Q37. A got Rs. 80 as his share of profit where the total profit was Rs. 240 and the ratio of profit distribution between A and B was x : 2. What is the value of x?

(a) 1
(b) 4
(c) 2
(d) 5

Q38. What is the median of 8, 5, 7, 9, 11, 6, 10?

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

Q39. If $5050 \times 0.5x = 25250$, then $2505 \div x^2 = ?$

(a) 0.2505
(b) 25.05
(c) 2.505
(d) 250.5

Q40. An article of marked price Rs. 12000 was sold. Had a discount of 15% been offered, a profit of 2% would have been made. What was the cost price?

(a) Rs. 10,200
(b) Rs. 10,000
(c) Rs. 11,000
(d) Rs. 10,800

Q41. A sum of Rs. 2,000 was spent in buying a pair of trousers. The sum spent was 2/5^(th) of the total money Shashi had with her. How much was the total money she had?

(a) Rs. 4,000
(b) Rs. 4, 250
(c) Rs. 4, 750
(d) Rs. 5,000

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Q42. A machine was bought for Rs. 1,500 and a repairing charge of Rs. 100 was paid afterwards. At what price should it be sold to gain a profit of 25%?

(a) Rs. 2,040
(b) Rs. 1,960
(c) Rs. 2,000
(d) Rs. 1, 920

Q43. In angular measurement, one radian is equivalent to _____ degree (approximately).

(a) 65.27
(b) 57.27
(c) 90
(d) 180

Q44. A and B can do a work in 15 days. B and C can do the work in 20 days and A and C can do the work in 10 days. In how many days will they together completed the work?

(a) 10.67 days
(b) 10.91 days
(c) 10.71 days
(d) 9.23 days

Q45. Pipes A and B can fill a tank in 12 minutes and 16 minutes respectively. Both A and B are opened for 4 minutes and then A is closed. How much extra time will B take to fill the tank completely?

(a) 20/3 minutes
(b) 7 minutes
(c) 21/4 minutes
(d) 6 minutes

Q46. A can do 2/5 of a work in 10 days. B can do ½ of the some work in 10 days. They worked together for 5 days and then A left. In how many days will B finish the remaining work?

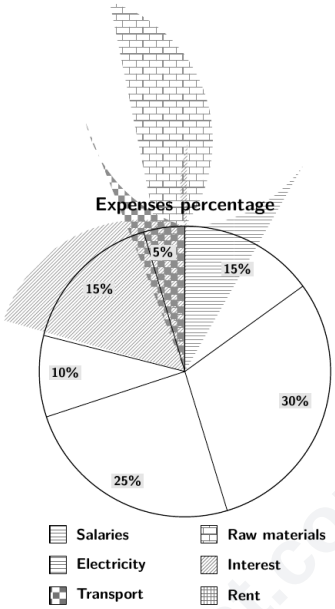
(a) 8
(b) 10
(c) 11
(d) 9

Q47. Reflection of point (-2, -6) on the Y-axis is:

(a) (2, 6)
(b) (-6, -2)
(c) (-2, 6)
(d) (2, -6)

Q48. The pie chart shows the breakup in percentage of the various expenses of a Company. Study the diagram and answer the following question.

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What is the interest expense if total expenses is Rs. 25000.

(a) Rs. 2, 500
(b) Rs. 1, 800
(c) Rs. 9, 000
(d) Rs. 5, 000

Q49. A motorcycle travelled 1000 m at 36 km/hr. Find the time (in seconds) taken by the motorcycle to cover this distance.

(a) 300
(b) 100
(c) 400
(d) 200

Q50. A 4-digit number 1xy7 is divisible by 11. What is the value of x - y?

(a) -8
(b) -2
(c) -4
(d) -6

Q51. Tap M and N can together fill a cistern in 48/13 minutes. N alone can fill it in 6 minutes. How much time will M alone take to fill the cistern?

(a) 9.6 minutes
(b) 9 minutes
(c) 9.4 minutes
(d) 8.6 minutes

Q52. What is the curved surface area of a hemisphere whose radius is 7 cm? (take π = 22/7)

(a) 616 cm^2
(b) 154 cm^2
(c) 308 cm^2
(d) 924 cm^2

Q53. An airplane flies at the speed of 50 m/s. How much distance (in km) will it cover in a flight of 5 hours?

(a) 895
(b) 850
(c) 880
(d) 900

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Q54. What is the distance between the points (4, 3) and (3, -2)?

(a) √26
(b) √24
(c) 6
(d) 5

Q55. sec 45° - tan 60° = ?

(a) • √3 + √2
(b) • √3 - √2
(c) (√3)/2
(d) √3 + √2

Q56. What is the least number which when doubled is perfectly divisible by 7, 12 and 15?

(a) 420
(b) 210
(c) 214
(d) 220

Q57. A sum of Rs. 10,000 amounts to Rs. 11, 449 in 2 years, when the interest is compounded annually. The interest rate percent per annum is:

(a) 6%
(b) 1%
(c) 7%
(d) 8%

Q58. The ages of X and Y are in the ratio 4 : 7. Three years earlier, the ratio of their ages was 1 : 2. What is the difference between their current ages (Y - X)?

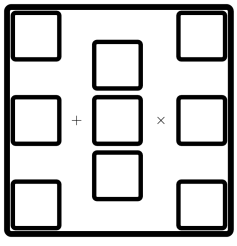
(a) 3
(b) 6
(c) 9
(d) 7.5

Q59. What is 80% of 50% of 90?

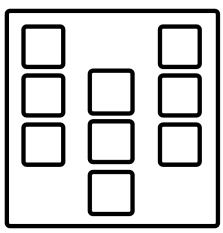
(a) 30
(b) 34
(c) 32
(d) 36

Q60. Choose the figure that is different from the rest.

(a)

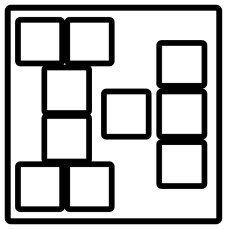


(b)

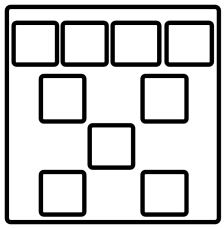


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(c)



(d)



Q61. A series is given, with one number missing. Choose the correct alternative from the given ones that will complete the series.

1.14, 1.28, 1.42, ?, 1.70, 1.84

(a) 1.56
(b) 1.54
(c) 1.68
(d) 1.62

Q62. Two planes E and F start flying from the same point. E flies 7 km west, then turns to its left and flies 15 km. Meanwhile F flies 11 km east and turns right and flies 15 km. Where is F with respect to E?

(a) F is 18 km west of E
(b) F is 4 km east of E
(c) F is 18 km east of E
(d) F is 4 km west of E

Q63. Given below are some letters, that each of these letters has a corresponding number. Select the combination of numbers from the option so that the jumbled letters arranged accordingly will form a meaningful English word.

H T R U O A

1 2 3 4 5 6

(a) 6, 4, 2, 1, 5, 3
(b) 3, 4, 5, 2, 1, 6
(c) 1, 6, 2, 4, 5, 3
(d) 2, 1, 5, 3, 4, 6

Q64. I, J, K and L are sitting in a row. L and I are sitting next to each other and I and K are the ends. Who is sitting next to J?

(a) Only K
(b) L and I
(c) K and L
(d) Only L

Q65. Select the option that is related to the third term in the same way as the second term is related to the first term.

Tall : Short ? Glad : ?

(a) Sad
(b) Happy
(c) Emotion
(d) Smile

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Q66. If, '+' represents '×', '-' represents '+', '×' represents '÷' and '÷' represents '-' then find the value of the following expression.

9 × 3 + 6 ÷ 2 = ?

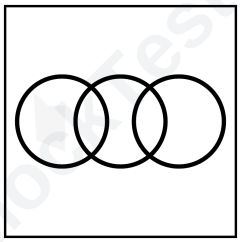
(a) 20
(b) 10
(c) 12
(d) 16

Q67. If G + H means G is daughter of H, G- H means G is sister H and G * H means G is husband of H, which of the following shows that I is the daughter of H?

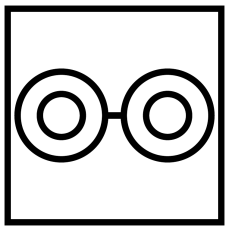
(a) I – J + F * H
(b) I + J - F * H
(c) I – J * F + H
(d) I * J - F + H

Q68. Which of the following Venn diagrams best represents the relationship between Indians, doctors and women?

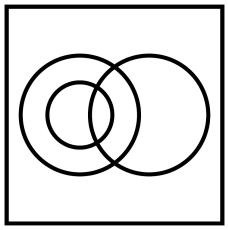
(a)



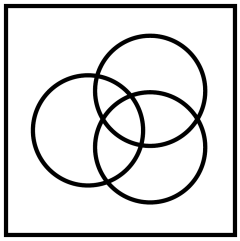
(b)



(c)



(d)



Q69. Given below are two statement, followed by two conclusion, I and II. You have to consider the statement 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: No quadrilaterals are polygons.

Statement 2: All polygons are rhombuses.

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Conclusion I: Some rhombuses are quadrilaterals.

Conclusion II: Some rhombuses are polygons.

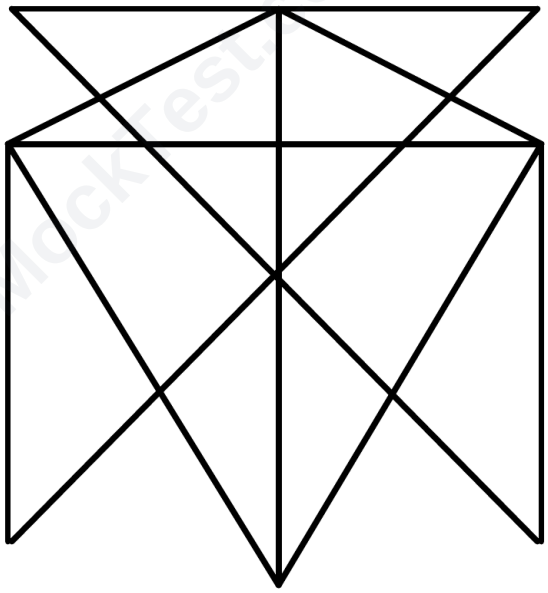
(a) Neither I nor II follows
(b) Only conclusion II follows
(c) Only conclusion I follows
(d) Both I and II follow

Q70. Which two signs should be interchanged to make the given equation correct?

9 ÷ 3 + 8 × 2 – 15 = 2

(a) × and -
(b) ÷ and -
(c) • and ×
(d) • and -

Q71. What is the minimum number of lines required to make the given image?



(a) 13
(b) 12
(c) 10
(d) 9

Q72. A series is give, with one term missing. Choose the correct alternative from the given ones that will complete the series.

OOOOOX, OOOOXX, OOOXXX, OOXXXX, ?

(a) XXXXXX
(b) OOXXXXX
(c) OOXXXX
(d) OXXXXX

Q73. If C $ D means C is daughter of D, C & D means C is mother of D and C % D means C is son of D, then what does W $ X & Y % Z mean?

(a) Z is wife of W
(b) Z is mother of W
(c) Z is father of W
(d) Z is daughter of W

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Q74. Given below is a question, followed by two arguments, I and II. You have to decide which of the given arguments, if any, is a strong argument, with respect to the question.

Question: Should advertisements be banned on television?

Argument I: Yes, advertisements are immoral.

Argument II: No, advertisements bring in revenue which helps reduce cost for viewers.

(a) Only argument II is strong.
(b) Only argument I is strong.
(c) Neither I nor II is strong.
(d) Both I and II are strong.

Q75. Select the option that is related to the third number in the same way as the second number is related to the first number.

-9/11 : 11/9 ? 13/2 : ?

(a) 3/7
(b) 2/13
(c) -2/13
(d) -7/3

Q76. Given below is a statement followed by two assumption numbered I and II. You have to decide which of the assumptions is/are implicit in the statement.

Statement: The human body produces Vitamin D when exposed to sunlight.

Assumption I: The human body will have Vitamin D even if it is not consumed via food.

Assumption II: A large portion of the global population suffers from Vitamin D deficiency.

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

Q77. A salesperson starts from his office and drives 2 km east, then turns north and drives 7 km, then turns to his right and drives 6 km, then turns south and drives 7 km. Where is he now with respect to his starting position?

(a) 8 km east
(b) 4 km west
(c) 4 km east
(d) 8 km west

Q78. Unscramble the letters in the words given below and find the odd word out.

(a) FLOW
(b) ILNO
(c) ERTIG
(d) WCO

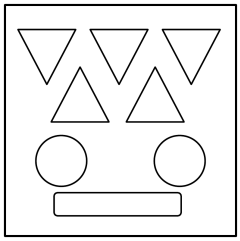
Q79. Find the odd group of letters from the given alternatives.

(a) EFG
(b) PQR
(c) VWX
(d) HJL

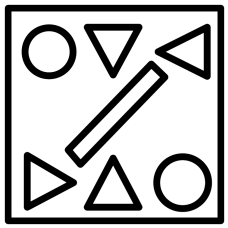
Q80. Choose the figure that is different from the rest.

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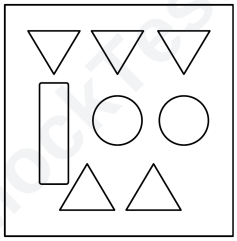
(a)



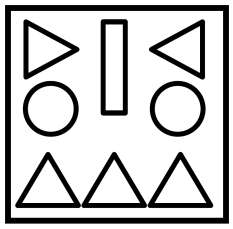
(b)



(c)



(d)

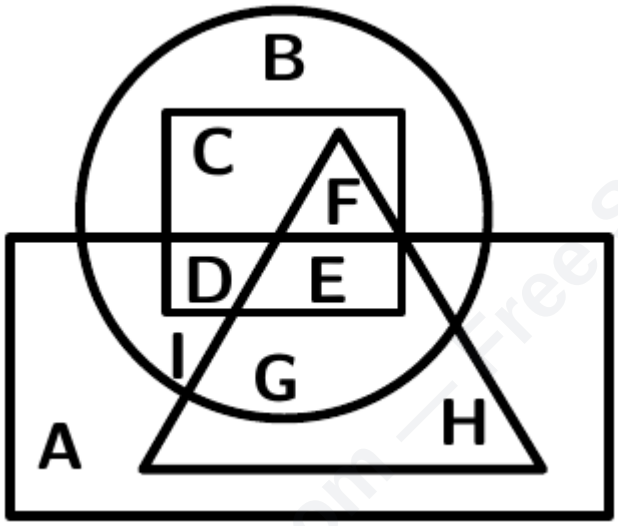


Q81. In a code language, 295 means ‘water is liquid’, 549 means ‘oil is liquid’ and 824 means ‘oil on water.’ Find the code for ‘on’.

(a) 4
(b) 2
(c) 8
(d) 5

Q82. In the following figure, square represents Chinese, triangle represents dancers, circle represents male and rectangle represents architects. Which set of letters represents dancers who are male?

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(a) DEIG
(b) DEF
(c) IGH
(d) GEF

Q83. The abbreviation AC in an engineering drawing stands for _____.
(a) Across Corners
(b) Aerial Cut
(c) Attached Circle
(d) Air Conditioning

Q84. Greater the value of _____ of a material, the more rapidly it will conduct heat.
(a) melting point
(b) latent heat
(c) regelation
(d) thermal conductivity

Q85. The effort applied to move a load is 15 units and the mechanical advantage is observed to be 3. Find the load.
(a) 5 units
(b) 3 units
(c) 15 units
(d) 45 units

Q86. What is the unit's digit in 3^(66)× 6^(41) × 7^(53)
(a) 8
(b) 3
(c) 6
(d) 7

Q87. If the width of a standard engineering drawing sheet is 841 mm, then its length would be _____ mm.
(a) 1189
(b) 1250
(c) 1000
(d) 1216

Q88. A 200 g block of iron was heated from 30°C to 60°C. How much heat was transferred to the block (specific heat of iron is 450 Jkg^(-1)K^(-1))?
(a) 6000 J
(b) 27 J

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(c) 2700 J
(d) 270 J

Q89. If a machine overcomes a load 'L' and the distance travelled by the load is 'Ld', the work done by the load will be _____.
(a) L × Ld
(b) L/Ld
(c) Ld/L
(d) 1/(L × Ld)

Q90. A brass rod (thermal conductivity 109 J/s m K) has an area of cross section 0.04 m² and length 20 cm. If the two end of the rod are maintained at a temperature difference of 200°C, the rate of heat flow through the rod is _____.
(a) 3.42 kJ/s
(b) 2.32 kJ/s
(c) 4.36 kJ/s
(d) 5.80 kJ/s

Q91. The effort in a class 1 lever is in _____ direction(s).
(a) three
(b) multiple
(c) two
(d) one

Q92. The velocity ratio of a simple machine is the ratio of distance traveled by the _____ to the distance traveled by the _____ in the machine.
(a) load; load
(b) effort; load
(c) load; effort
(d) effort; effort

Q93. If straight lines are drawn from various points on the contour of an object to meet a plane, the figure obtained on the plane is called the _____ of the object.
(a) development
(b) dimensioning
(c) projection
(d) animation

Q94. A _____ is a theoretical exact plane, axis or point location that GD & T or dimensional tolerances are referenced to.
(a) flange
(b) frame
(c) section
(d) datum

Q95. Molar specific heat capacity of a substance is _____.
(a) (1/μ)((Δ Q)/(Δ T))
(b) μ ((Δ Q)/(Δ T))
(c) (1/μ)((Δ T)/(Δ Q))
(d) μ ((Δ T)/(Δ Q))

Q96. In engineering drawing, the letters LH signifies _____.
(a) Level Hide
(b) Left Hand
(c) Low Heat
(d) Limit of Height

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Q97. Identify the material having high coefficient of volume expansion.

(a) Brass
(b) Alcohol
(c) Glass
(d) Water

Q98. An object starts from rest at x = 0 m and moves with a constant acceleration of 1.6 m/s² along the x-axis. During its journey from x = 12.8 m to x = 20.0 m, its average velocity will be _____.

(a) 7.2 m/s
(b) 3.6 m/s
(c) 8.8 m/s
(d) 2.4 m/s

Q99. You are given a question and two statements. Identify which of the statements is/are necessary/sufficient to answer the question.

Question: What was the discount percent offered on the soap by the store?

Statements:

I) The store is giving 1 soap free on purchase of three.

II) Rs. 10 discount is offered on purchase of soap worth 36.

(a) II alone is sufficient while I alone is not sufficient
(b) I alone is sufficient while II alone is not sufficient
(c) Neither I nor II is sufficient
(d) Either I or II is sufficient

Q100. Identify the material having low coefficient of volume expansion

(a) Iron
(b) Mercury
(c) Brass
(d) Aluminium

PART B

Q101. In diesel cycle combustion takes place at

(a) Constant volume
(b) Constant temperature and pressure
(c) Constant temperature
(d) Constant pressure

Q102. Identify the instrument used for checking flatness and squareness of a surface?

(a) Go Gauge
(b) Try square
(c) Vernier height gauge
(d) Centre punch

Q103. The purpose of dynamo is - Choose the correct option.

(a) Act as reservoir of electrical energy
(b) Supply electric power
(c) Convert mechanical energy into electrical energy
(d) Continually recharge the battery

Q104. The device, which is used to measure the brake power of an engine is called - Choose the correct answer.

(a) Dynamo meter
(b) Energy meter
(c) Torque wrench

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(d) Indicator

Q105. Belt slackness is due to _____.

(a) Worn shaft
(b) Worn chain
(c) Worn gear
(d) Worn sprocket

Q106. When using Vernier Height Gauge, it should be placed at _____.

(a) Vee Block
(b) Crank shaft
(c) Cylinder head
(d) Surface plate

Q107. A hole is drilled between the crankshaft main journal and crank pin for

(a) Lubricating the connecting rod bearings
(b) Reducing the crank shaft vibrations
(c) Reducing crankshaft weight
(d) Balancing the crank shaft

Q108. Wire gauge is a measurement of a wire's - Choose the correct answer.

(a) Brittleness
(b) Tensile strength
(c) Diameter
(d) Hardness

Q109. A lubricant oil is needed to run the machine _____

(a) quickly
(b) With increased friction
(c) With cleanliness
(d) Without noise

Q110. The instrument used to measure high temperature in the furnace is

(a) Colorimeter
(b) Barometer
(c) Thermometer
(d) Pyrometer

Q111. Identify the point angle of a Centre punch from the given options.

(a) 30°
(b) 90°
(c) 120°
(d) 60°

Q112. Ammeter is used for measurement of _____.

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

Q113. A cutting tool used to finish and enlarge a hole is known as

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

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Q114. The drive for the diesel fuel feed pump is taken from the

(a) Crankshaft
(b) Timing gears
(c) Fuel injection camshaft
(d) Engine camshaft

Q115. The stroke of an engine is _____.

(a) Length of connecting rod
(b) The distance between TDC and BDC
(c) Internal diameter of cylinder
(d) Volume of cylinder

Q116. Scavenging is done to maintain

(a) Oil pressure
(b) Fuel consumption
(c) Power output
(d) Speed

Q117. Much of the heat in the exhaust gases may be recovered by the use of

(a) Heat-exchanger
(b) Manifold
(c) Muffler
(d) Tail pipe

Q118. A depth micrometer can be used to measure _____.

(a) Diameter of bore
(b) Thickness of the bore
(c) Roundness of the bore
(d) Length of the bore

Q119. Clearance between mating parts is measured by

(a) Feeler gauge
(b) "Go" gauge
(c) Dial gauge
(d) Caliper gauge

Q120. The purpose of the injector provided on a diesel engine is to inject

(a) Lubricant in the bearings
(b) Fuel in the cylinders
(c) Lubricant in the cylinder
(d) Coolant in the cylinder jacket

Q121. Indicated work per cycle is equal to

(a) Mean effective pressure x stroke volume
(b) Mean effective pressure x bore diameter
(c) Mean effective pressure x bore arc
(d) Mean effective pressure x stroke length

Q122. The air filters used in high-speed diesel engines are generally of the type

(a) Dry filters
(b) Heaters
(c) Oil bath filters
(d) Impingement filters

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Q123. Cyaniding and nitriding are two methods of

(a) Normalising
(b) Hardening
(c) Tempering
(d) Case hardening

Q124. Higher efficiency can be achieved of an OTTO cycle by increasing the _____.

(a) Fuel intake
(b) stroke length
(c) Cylinder size
(d) Compression ratio

Q125. The ignition condenser

(a) Reduces arcing at contacts
(b) Protects plugs from load
(c) Reduces secondary spark
(d) Increases contact arcing

Q126. Water circulation in a thermo-siphon cooling system is caused by

(a) The change in density of the water
(b) A belt driven water impeller
(c) Conduction currents
(d) A gear driven water pump

Q127. A cutting tool used to cut outside threads is called

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

Q128. Piston rings are generally made of

(a) Cast iron
(b) Brass
(c) Aluminium
(d) Copper

Q129. The grooves provided on the entire length of the body of a twist drill are called

(a) webs
(b) Flutes
(c) Lips
(d) Margins

Q130. Which of the following is not a part of the combination set?

(a) Socket spanners
(b) Steel rule
(c) Square head
(d) Protractor head

Q131. The vernier caliper is used for measuring-

(a) Roundness
(b) Shape
(c) Flatness
(d) Thickness

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Q132. The instrument used to measure cylinder bore diameter is

(a) Vernier caliper
(b) Outside micrometer
(c) Bore dial gauge
(d) Telescopic gauge

Q133. The point angle of twist drill for general purposes is

(a) 60°
(b) 90°
(c) 135°
(d) 118°

Q134. What is the material used for making Pistons?

(a) Brass
(b) Galvanised Copper
(c) Aluminum Alloy
(d) Steel

Q135. The study of pneumatics deals with systems driven by _____.

(a) Oil
(b) Water
(c) Air
(d) Solid matter

Q136. When tolerance is given on one side of the basic dimension it is called

(a) Allowance system
(b) Unilateral tolerance
(c) Bilateral tolerance
(d) Tolerance system

Q137. The diesel engine usually emits excessive smoke during

(a) Accelerating
(b) Decelerating
(c) Starting
(d) Idling

Q138. In a diesel engine, feed pump is located on

(a) Fuel tank
(b) Fuel filter
(c) Cylinder head
(d) F.I.P

Q139. Why is air cleaner filled with oil?

(a) To lubricate
(b) To prevent dust and dirt from atmosphere
(c) To pressurize
(d) To accelerate

Q140. The connecting rod is made up of

(a) Alloy steel
(b) Aluminium
(c) Cast iron
(d) Mild steel

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Q141. The purpose of thermostat is to keep the engine

(a) Warm
(b) Cool
(c) At desired temperature
(d) Hot

Q142. An air chisel is used brake or cut metal objects apart. How is it operated?

(a) Pneumatically
(b) Magnetically
(c) Frictionally
(d) Hydraulically

Q143. The ratio between BHP and IHP is called

(a) Engine efficiency
(b) Power efficiency
(c) Mechanical efficiency
(d) Thermal efficiency

Q144. A governor is a

(a) Pressure sensitive device
(b) Temperature sensitive device
(c) Speed sensitive device
(d) Vacuum sensitive device

Q145. In starting of diesel engines by electric starting what is used to supply power to the starter motor?

(a) Battery
(b) Rectifier
(c) Dynamo
(d) Generator

Q146. What is the part of the universal surface gauge which helps to draw a parallel line along a dotted edge known as?

(a) Fine adjusting screw
(b) Center punch
(c) Scriber
(d) Guide pins

Q147. Combustion of the air-fuel mixture in petrol engine takes place through _____.

(a) Intestinal cells
(b) Cylinder
(c) Piston
(d) The elimination cells

Q148. In a diesel engine, fuel is ignited by _____.

(a) Spark plug
(b) Injector
(c) Compressed air temperature properties
(d) Glow Plug

Q149. What is the SI unit of pressure?

(a) Newton
(b) Joule
(c) Pascal
(d) Dyne

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Q150. The function of the alternator in a vehicle is to

(a) Measure the current
(b) Discharge the battery
(c) Measure the voltage
(d) Charge the battery

Q151. What is the composition of Gunmetal?

(a) Lead and nickel
(b) Copper, Tin and zinc
(c) Copper, zinc and nickel
(d) Lead and zinc

Q152. What is the angle of the drill bit?

(a) 118°
(b) 115°
(c) 119°
(d) 59°

Q153. The electronic ignition system is triggered on and off through _____.

(a) Contact breaker
(b) Trigger
(c) Diode
(d) Permanent magnet

Q154. To increase the output voltage, battery cells are connected in

(a) inclined
(b) Series
(c) Parallel
(d) Series-parallel

Q155. Which of the following are not symptoms of poor clutch operation?

(a) Vibration of engine
(b) Difficulty in gear shifting when pedal press
(c) pedal gets stuck when pressed
(d) increase in engine noise when pedal press

Q156. A rivet is specified by its diameter of _____.

(a) Shank
(b) Length
(c) Tail
(d) The head

Q157. What is the principle on which brakes work?

(a) Vibration
(b) Friction
(c) Suction
(d) Dragging

Q158. The coolant used for reaming aluminum work piece is

(a) Air pressure
(b) Water
(c) Kerosene
(d) Lard oil

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Q159. What is drawn in the cylinder of diesel engine during suction stroke?

(a) Pure air alone
(b) A mixture of air and fuel
(c) CNG gas
(d) Diesel

Q160. Micrometer can measure upto _____

(a) 0.005 mm
(b) Microns size
(c) 0.1 mm
(d) Least count

Q161. Identify the material used for twist drill.

(a) Alloy steel
(b) H.S.S
(c) Carbide steel
(d) Mild steel

Q162. Vernier depth gauge is used for measuring

(a) Pitch circle diameter
(b) Round dimension
(c) Step, depth of blind hole
(d) Internal dimension

Q163. Which one of the following fuel injection systems were originally used in large stationary and marine engines and is now seldom used?

(a) Mechanical injection
(b) Air injection
(c) Solid injection
(d) Airless injection

Q164. The principle of a radiator of an engine cooling system is to

(a) Increase the air speed as it flows over the hot surface
(b) Spread out the hot water over a large area
(c) Acts as a reservoir for the water
(d) Cause a heat flow by convection currents

Q165. The operation of the governor can only be effective if the system is airtight which type of governor is this?

(a) Mechanical
(b) Servo
(c) Pneumatic
(d) Hydraulic

Q166. A noise produced in the cylinder of a diesel engine during combustion, usually when the fuel oil has a low ignition quality is called

(a) Fuel knock
(b) Fuel explosion
(c) Fuel thrust
(d) Fuel burst

Q167. The tool, which is used for laying out diameter is

(a) Scriber
(b) Divider
(c) Outside micrometer
(d) Tri square

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Q168. To measure the cylinder bore one of these instruments is used. Identify.

(a) Screw gauge
(b) Dial indicator
(c) Caliper
(d) Micrometer

Q169. Air lock in fuel line will cause

(a) Engine idling high
(b) Injector pressure is too high
(c) Late starting and erratic running
(d) Excess delivery from FI pump

Q170. The rate of doing work is called _____.

(a) Power
(b) Energy
(c) Force
(d) Torque

Q171. A maintenance free battery

(a) Does not contain water
(b) Has lead-calcium plate grid
(c) Does not contain acid
(d) Has lead-antimony plate grid

Q172. Why is free play in clutch needed?

(a) to prevent the clutch from heating up
(b) to increase speed of engine rpm
(c) to improve efficiency of braking
(d) to facilitate lubrication by oil

Q173. What is the other name for Jenny spanners?

(a) Outside caliper
(b) Joint spanner
(c) Inside caliper
(d) Odd-leg caliper

Q174. A mechanism used to control the speed of an engine is called

(a) Speedometer
(b) Regulator
(c) Odometer
(d) Governor

Q175. A fuse in an electrical circuit 'blows' as a result of a high

(a) Voltage caused by a short circuit
(b) Current flow caused by an open circuit
(c) Voltage caused by an open circuit
(d) Current flow caused by a short circuit

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

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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
81	a	82	a	83	a	84	a	85	a	86	a	87	a	88	a	89	a	90	a
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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