RAILWAY RECRUITMENT BOARDS
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RRB ALP 2018 CBT-2 Heat Engine

Assistant Loco Pilot & Technicians · CEN 01/2018 · CBT-2 (21-23 Jan 2019) · Trade: Heat Engine · Question Paper

English

Complete Paper · 175 Questions · Official Answer Key

About this Compilation

This booklet contains the complete question paper of the **RRB ALP 2018 CBT-2 Heat Engine** examination in **English**, with the correct option marked as per the official answer key.

✓ Correct option (highlighted green)

Source. Original images of the official RRB response sheets (no retyping). Paper = Part A 100 (Maths, Reasoning, Basic Science & Engineering, Current Affairs) + Part B 75 (trade).

How to use

- Use the **Index** page to jump directly to any set (clickable).
- Questions appear section by section in the order of the paper, numbered 1 onward.
- Diagram and wide-table questions appear at full width at the end of their section.
- The correct answer is highlighted in green with a tick.

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Index — All Sets (click to open)

Set 1
23 Jan 2019
4:30 PM - 7:00 PM

Part A 100 Questions • Answer Key

Q1 Part A

Which Indian cricketer received the Padma Bhushan in 2018?

A. Sachin Tendulkar

B. Virat Kohli

C. Saurav Ganguly

D. MS Dhoni ✓

Q2 Part A

Given below are two statements, 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, follow(s) from the given statements.

Statement 1: No quadrilaterals are polygons.
Statement 2: All polygons are rhombuses.

Conclusion I: Some rhombuses are quadrilaterals.
Conclusion II: Some rhombuses are polygons.

A. Only conclusion I follows

B. Both I and II follow

C. Only conclusion II follows ✓

D. Neither I nor II follows

Q3 Part A

In an examination, the highest score and the lowest score differed by 55 and the higher one was 9/4 times the lower one. What is the lowest score?

A. 36

B. 40

C. 48

D. 44 ✓

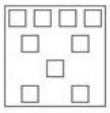
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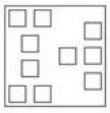
Q4 Part A

Choose the figure that is different from the rest.

A. 

B. 

C. 

D.  ✓

Q5 Part A

The effort in a class 1 lever is in _____ direction(s).

A. multiple

B. three

C. one ✓

D. two

Q6 Part A

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

A. - 4

B. - 2

C. - 6 ✓

D. - 8

Q7 Part A

86°F is equal to _____ .

A. 30°C ✓

B. 34°C

C. 20°C

D. 10°C

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Q8 Part A

Velocity ratio of simple machine is the ratio of distance travelled by the _____ to the distance travelled by the _____ in the machine.

A. effort; load ✓

B. load; load

C. load; effort

D. effort; effort

Q9 Part A

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

A. 7

B. 9

C. 8 ✓

D. 10

Q10 Part A

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. V/it

B. 1/Vit

C. Vit ✓

D. Vi/t

Q11 Part A

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

A. Head

B. Hearing ✓

C. Foot

D. Eye

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Q12 Part A

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

A. less than X ✓

B. more than X

C. equal to X

D. zero

Q13 Part A

What is 80% of 50% of 90?

A. 36 ✓

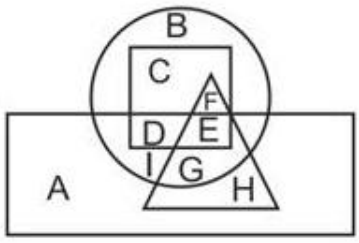
B. 30

C. 32

D. 34

Q14 Part A

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?



A. DEIG

B. DEF

C. IGH

D. GEF ✓

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Q15 Part A

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 4 km east of E

B. F is 18 km west of E

C. F is 4 km west of E

D. F is 18 km east of E ✓

Q16 Part A

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

A. $\sqrt{24}$

B. 6

C. $\sqrt{26}$ ✓

D. 5

Q17 Part A

Identify the material having high coefficient of volume expansion.

A. Glass

B. Water

C. Alcohol ✓

D. Brass

Q18 Part A

The effort applied to move a load is 15 units and the machine advantage is observed to be 3. Find the load.

A. 15 units

B. 3 units

C. 45 units ✓

D. 5 units

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Q19 Part A

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. 9R

B. 27R ✓

C. 3R

D. R

Q20 Part A

If, '+' represents '×', '-' represents '+', '×' represents '÷' and '÷' represents '-', then find the value of the following expression.
$9 \times 3 + 6 \div 2 = ?$

A. 20

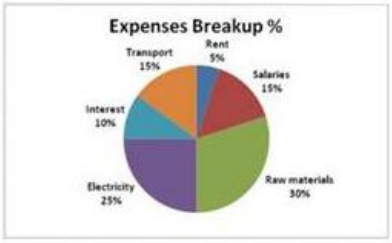
B. 10

C. 12

D. 16 ✓

Q21 Part A

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



What is the interest expense if total expenses are ₹25,000 approximately?

A. ₹5,000

B. ₹9,000

C. ₹2,500 ✓

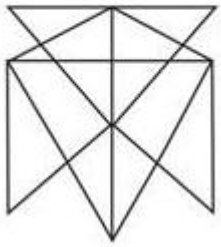
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Q22 Part A

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



A. 10

B. 9

C. 11 ✓

D. 12

Q23 Part A

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

Q24 Part A

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. 6

B. 7.5

C. 3

D. 9 ✓

Q25 Part A

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. 5

B. 2

C. 8 ✓

D. 4

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Q26 Part A

In engineering drawing, the letters LH signifies _____.

A. Low Heat

B. Left Hand ✓

C. Level Hide

D. Limit of Height

Q27 Part A

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. (4/15) A ✓

B. (2/15) A

C. (6/15) A

D. (8/15) A

Q28 Part A

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

A. ₹5,000 ✓

B. ₹4,750

C. ₹4,250

D. ₹4,000

Q29 Part A

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

A. feet ✓

B. eye

C. ear

D. head

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Q30 Part A

What is the curved surface area of a hemisphere whose radius is 7 cm? (take $\pi = 22/7$)

A. $154\ cm^2$

B. $616\ cm^2$

C. $924\ cm^2$

D. $308\ cm^2$ ✓

Q31 Part A

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

$9 \div 3 + 8 \times 2 - 15 = 2$

A. + and ×

B. × and -

C. + and - ✓

D. ÷ and -

Q32 Part A

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 daughter of W

B. Z is wife of W

C. Z is mother of W

D. Z is father of W ✓

Q33 Part A

Where is the Headquarters of UNESCO located?

A. Geneva

B. New York City

C. Paris ✓

D. Washington DC

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Q34 Part A

$\sec 45° - \tan 60° = ?$

A. $-\sqrt{3} + \sqrt{2}$ ✓

B. $\sqrt{3} + \sqrt{2}$

C. $\frac{\sqrt{3}}{2}$

D. $-\sqrt{3} - \sqrt{2}$

Q35 Part A

What is the unit's digit in $3^{66} \times 6^{41} \times 7^{53}$

A. 3

B. 6

C. 8 ✓

D. 7

Q36 Part A

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

A. I alone is sufficient while II alone is not sufficient

B. Neither I nor II is sufficient

C. II alone is sufficient while I alone is not sufficient

D. Either I or II is sufficient ✓

Q37 Part A

Name the painter of the famous painting, 'Mahishasura'.

A. Amrita Sher-Gil

B. MF Hussain

C. Raja Ravi Verma

D. Tyeb Mehta ✓

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Q38 Part A

A can do 2/5 of a work in 10 days. B can do ½ of the same 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. 11 ✓

C. 10

D. 9

Q39 Part A

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

A. 150 ✓

B. 136

C. 125

D. 175

Q40 Part A

The abbreviation AC in an engineering drawing stands for _____.

A. Aerial Cut

B. Attached Circle

C. Across Corners ✓

D. Air Conditioning

Q41 Part A

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. Neither I nor II is strong.

C. Both I and II are strong.

D. Only argument I is strong.

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Q42 Part A

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

A. KR Puri

B. HVR Iyengar

C. Sir James Braid Taylor

D. Sir Osborne A Smith ✓

Q43 Part A

A wire of length l 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. 2R ✓

B. R

C. 4R

D. R/2

Q44 Part A

If $\sin\Theta = 15/17$, then $\cot\Theta =$?

A. $\frac{15}{8}$

B. $\frac{8}{15}$ ✓

C. $\frac{8}{17}$

D. $\frac{17}{15}$

Q45 Part A

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

A. 1.5 A ✓

B. 0.5 A

C. 2.5 A

D. 3.5 A

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Q46 Part A

RK Narayan is famous for his book _____.

A. Malgudi Days ✓

B. The Toom on the Roof

C. Two Lives

D. A Suitable Boy

Q47 Part A

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

A. 66

B. 67 ✓

C. 65

D. 68

Q48 Part A

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. -7/3

C. 2/13

D. -2/13 ✓

Q49 Part A

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. 9.4 minutes

C. 8.6 minutes

D. 9 minutes

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Q50 Part A

A series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.
OOOOOX, OOOOXX, OOOXXX, OOXXXX, ?

A. OXXXXX ✓

B. OOXXXX

C. XXXXXX

D. OOXXXXX

Q51 Part A

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

A. Amount of substance

B. Luminous intensity

C. Frequency ✓

D. Electric current

Q52 Part A

Given below are some letters, that each of these letters has a corresponding number. Select the combination of numbers from the options 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. 3,4,5,2,1,6

B. 1,6,2,4,5,3

C. 2,1,5,3,4,6

D. 6,4,2,1,5,3 ✓

Q53 Part A

Given below is a statement followed by two assumptions 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. Neither I nor II is implicit

B. Both I and II are implicit

C. Only assumption II is implicit

D. Only assumption I is implicit ✓

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Q54 Part A

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. 1.68

B. 1.62

C. 1.54

D. 1.56 ✓

Q55 Part A

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. 270 J

B. 6000 J

C. 2700 J ✓

D. 27 J

Q56 Part A

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

A. work

B. velocity

C. time squared ✓

D. time

Q57 Part A

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

A. non-biodegradable

B. non-reusable

C. reusable

D. biodegradable ✓

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Q58 Part A

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

A. 2.505

B. 250.5

C. 25.05 ✓

D. 0.2505

Q59 Part A

A brass rod (thermal conductivity 109 J/s m K) has an area of cross section 0.04 m^2 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. 5.80 kJ/s

C. 4.36 kJ/s ✓

D. 2.32 kJ/s

Q60 Part A

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

A. liquids

B. water ✓

C. air

D. mercury

Q61 Part A

Kuchipudi has its roots in which Indian State?

A. Himachal Pradesh

B. Arunachal Pradesh

C. Kerala

D. Andhra Pradesh ✓

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Q62 Part A

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

A. 220

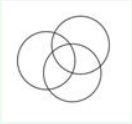
B. 210 ✓

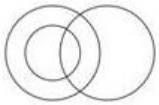
C. 214

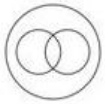
D. 215

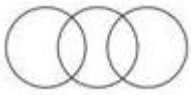
Q63 Part A

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

A.  ✓

B. 

C. 

D. 

Q64 Part A

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. $\frac{Ld}{L}$

B. $\frac{1}{L \times Ld}$

C. $\frac{L}{Ld}$

D. $L \times Ld$ ✓

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Q65 Part A

Choose the figure that is different from the rest.

A. 

B. 

C.  ✓

D. 

Q66 Part A

A _____ is a theoretical exact plane, axis or point location that GD & T or dimensional tolerances are referenced to.

A. flange

B. datum ✓

C. section

D. frame

Q67 Part A

Greater the value of _____ of a material, the more rapidly it will conduct heat.

A. regelation

B. thermal conductivity ✓

C. melting point

D. latent heat

Q68 Part A

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. Sun

C. Mercury

D. Moon ✓

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Q69 Part A

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 complete the work?

A. 10.71 days

B. 9.23 days ✓

C. 10.91 days

D. 10.67 days

Q70 Part A

Molar specific heat capacity of a substance is _____.

A. $\mu\left(\frac{\Delta T}{\Delta Q}\right)$

B. $\mu\left(\frac{\Delta Q}{\Delta T}\right)$

C. $\left(\frac{1}{\mu}\right)\left(\frac{\Delta Q}{\Delta T}\right)$ ✓

D. $\left(\frac{1}{\mu}\right)\left(\frac{\Delta T}{\Delta Q}\right)$

Q71 Part A

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

A. ₹1,960

B. ₹2,040

C. ₹1,920

D. ₹2,000 ✓

Q72 Part A

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. Emotion

B. Sad ✓

C. Smile

D. Happy

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Q73 Part A

Find the odd group of letters from the given alternatives.

A. HJL ✓

B. VWX

C. PQR

D. EFG

Q74 Part A

Which one of these is a harvest festival?

A. Teej

B. Deepawali

C. Onam ✓

D. Janmashtami

Q75 Part A

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

A. ERTIG

B. FLOW

C. ILNO

D. WCO ✓

Q76 Part A

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

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Q77 Part A

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

A. L and I

B. Only K

C. K and L ✓

D. Only L

Q78 Part A

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

A. 3

B. 2 ✓

C. 4

D. 5

Q79 Part A

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

A. 400

B. 200

C. 300

D. 100 ✓

Q80 Part A

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

A. malware ✓

B. operating system

C. LAN

D. server

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Q81 Part A

An article was sold for ₹12,000. Had a discount of 15% been offered, a profit of 2% would have been made. What was the cost price?

A. ₹10,800

B. ₹10,000 ✓

C. ₹10,200

D. ₹11,000

Q82 Part A

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. 6 minutes

B. $\frac{21}{4}$ minutes

C. 7 minutes

D. $\frac{20}{3}$ minutes ✓

Q83 Part A

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

A. 5 V

B. 10 V ✓

C. 20 V

D. 15 V

Q84 Part A

In angular measurements, one radian is equivalent to _____ degrees (approximately).

A. 65.27

B. 180

C. 57.27 ✓

D. 90

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Q85 Part A

An object starts from rest at x = 0 m and moves with a constant acceleration of 1.6 m/s^2 along the x-axis. During its journey from x = 12.8 m to x = 20.0 m, its average velocity will be_____.

A. 2.4 m/s

B. 8.8 m/s

C. 7.2 m/s ✓

D. 3.6 m/s

Q86 Part A

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

A. 36

B. 72 ✓

C. 108

D. 124

Q87 Part A

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

A. (-2, 6)

B. (2, 6)

C. (-6, -2)

D. (2, -6) ✓

Q88 Part A

Name the scientist who discovered bacteria.

A. James Chadwick

B. Eugen Goldstein

C. AV Leeuwenhoek ✓

D. Robert Koch

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Q89 Part A

A sum of ₹10,000 amounts to ₹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%

Q90 Part A

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. 6 J ✓

B. 12 J

C. 10 J

D. 8 J

Q91 Part A

JPEG stands for _____.

A. Joint Program Executing Group

B. Joint Program Experimental Group

C. Joint Program Experts Group

D. Joint Photographic Experts Group ✓

Q92 Part A

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

A. Maratha

B. Islamic

C. Buddhist ✓

D. Arabic

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Q93 Part A

Identify the material having low coefficient of volume expansion

A. Aluminium

B. Iron ✓

C. Brass

D. Mercury

Q94 Part A

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. 8 km west

D. 4 km east

Q95 Part A

If the width of a standard engineering drawing sheet is 841 mm, then its length would be _____ mm.

A. 1250

B. 1189 ✓

C. 1216

D. 1000

Q96 Part A

A got ₹80 as his share of profit where the total profit was ₹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

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Q97 Part A

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

A. 16 W

B. 14 W

C. 18 W ✓

D. 10 W

Q98 Part A

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

A. decreases ✓

B. increases

C. remains constant

D. is zero

Q99 Part A

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 ✓

Q100 Part A

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

A. position ✓

B. acceleration

C. pressure

D. velocity

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Q101 Part B (Heat Engine)

Vernier depth gauge is used for measuring

A. Internal dimension

B. Step, depth of blind hole ✓

C. Pitch circle diameter

D. Round dimension

Q102 Part B (Heat Engine)

Much of the heat in the exhaust gases may be recovered by the use of – Choose the correct option.

A. Tail pipe

B. Muffler

C. Manifold

D. Heat-exchanger ✓

Q103 Part B (Heat Engine)

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

A. Generator

B. Battery ✓

C. Rectifier

D. Dynamo

Q104 Part B (Heat Engine)

A governor is a

A. Temperature sensitive device

B. Vacuum sensitive device

C. Speed sensitive device ✓

D. Pressure sensitive device

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Q105 Part B (Heat Engine)

Air lock in fuel line will cause - Choose the correct answer.

A. Injector pressure is too high

B. Late starting and erratic running ✓

C. Engine idling high

D. Excess delivery from FI pump

Q106 Part B (Heat Engine)

The stroke of an engine is - Choose the correct answer.

A. Length of the connecting rod

B. Inside diameter of the cylinder

C. Distance between t.d.c and b.d.c

D. Volume of the cylinder ✓

Q107 Part B (Heat Engine)

In a diesel engine feed pump is located on - Choose the correct answer.

A. F.I.P ✓

B. Fuel filter

C. Cylinder head

D. Fuel tank

Q108 Part B (Heat Engine)

What is the other name for Jenny spanners ?

A. Inside caliper

B. Odd-leg caliper

C. Outside caliper

D. Joint spanner ✓

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Q109 Part B (Heat Engine)

Why is free play in clutch needed

A. to prevent the clutch from heating up ✓

B. to improve efficiency of braking

C. to facilitate lubrication by oil

D. to increase speed of engine rpm

Q110 Part B (Heat Engine)

Ammeter is used to measure - Choose the correct answer.

A. resistance

B. Power

C. Current ✓

D. Voltage

Q111 Part B (Heat Engine)

A depth micrometer can be used to measure _____.

A. Length of the bore

B. Thickness of the bore

C. Diameter of bore ✓

D. Roundness of the bore

Q112 Part B (Heat Engine)

The SI unit of pressure is - Choose the correct answer.

A. Pascal ✓

B. Newton

C. Joule

D. Dyne

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Q113 Part B (Heat Engine)

Identify the the material used for twist drill.

A. Mild steel

B. Carbide steel

C. Alloy steel

D. H.S.S ✓

Q114 Part B (Heat Engine)

The connecting rod is made up of - Choose the correct answer.

A. Cast iron

B. Aluminium

C. Mild steel

D. Alloy steel ✓

Q115 Part B (Heat Engine)

The diesel engine usually emits excessive smoke during – Choose the correct option.

A. Idling

B. Decelerating

C. Starting

D. Accelerating ✓

Q116 Part B (Heat Engine)

The operation of the governor can only be effective if the system is air tight which type of governor is this ?

A. Hydraulic

B. Servo

C. Mechanical

D. Pneumatic ✓

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Q117 Part B (Heat Engine)

In diesel cycle combustion takes place at - Choose the correct answer.

A. Constant volume

B. Constant temperature and pressure

C. Constant temperature

D. Constant pressure ✓

Q118 Part B (Heat Engine)

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

A. Solid injection

B. Mechanical injection

C. Airless injection

D. Air injection ✓

Q119 Part B (Heat Engine)

Clearance between mating parts is measured by - Choose the correct option

A. Caliper gauge

B. Dial gauge

C. Feeler gauge ✓

D. "Go" gauge

Q120 Part B (Heat Engine)

Micrometer can measure upto _____

A. Least count ✓

B. 0.005 mm

C. 0.1 mm

D. Microns size

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Q121 Part B (Heat Engine)

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

A. compression ratio ✓

B. Cylinder size

C. Fuel intake

D. stroke length

Q122 Part B (Heat Engine)

Piston rings are generally made of-Choose the correct answer.

A. Aluminium

B. Cast iron ✓

C. Brass

D. Copper

Q123 Part B (Heat Engine)

Cyaniding and nitriding are two methods of - Choose the correct answer.

A. Normalising

B. Case hardening ✓

C. Tempering

D. Hardening

Q124 Part B (Heat Engine)

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

A. Pure air alone ✓

B. CNG gas

C. A mixture of air and fuel

D. Diesel

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Q125 Part B (Heat Engine)

A cutting tool used to finish and enlarge a hole is known as-Choose the correct answer.

A. Die

B. Drill

C. reamer ✓

D. Tap

Q126 Part B (Heat Engine)

When tolerance is given on one side of the basic dimension it is called - Choose the correct answer.

A. Tolerance system

B. Unilateral tolerance ✓

C. Bilateral tolerance

D. Allowance system

Q127 Part B (Heat Engine)

The principle of a radiator of an engine cooling system is to - Choose the correct answer.

A. Acts as a reservoir for the water

B. Spread out the hot water over a large area ✓

C. Increase the air speed as it flows over the hot surface

D. Cause a heat flow by convection currents

Q128 Part B (Heat Engine)

The instrument used to measure high temperature in the furnace is-Choose the correct answer.

A. pyrometer ✓

B. Barometer

C. Thermometer

D. Colorimeter

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Q129 Part B (Heat Engine)

Belt slackness is due to _____ - Choose the correct answer.

A. Worn sprocket

B. Worn chain

C. Worn shaft ✓

D. Worn gear

Q130 Part B (Heat Engine)

What is the material used for making Pistons?

A. Galvanised Copper

B. Steel

C. Aluminum Alloy ✓

D. Brass

Q131 Part B (Heat Engine)

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

A. Scriber

B. Guide pins ✓

C. Fine adjusting screw

D. Center punch

Q132 Part B (Heat Engine)

Why is air cleaner filled with oil?

A. To pressurize

B. To accelerate

C. To prevent dust and dirt from atmosphere ✓

D. To lubricate

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Q133 Part B (Heat Engine)

What is the principle on which brakes work?

A. Dragging

B. Vibration

C. Suction

D. Friction ✓

Q134 Part B (Heat Engine)

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

A. Impingement filters

B. Heaters

C. Dry filters

D. Oil bath filters ✓

Q135 Part B (Heat Engine)

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

A. Hardness

B. Tensile strength

C. Diameter ✓

D. brittleness

Q136 Part B (Heat Engine)

A cutting tool used to cut outside threads is called - Choose the correct answer.

A. Drill

B. Die ✓

C. Reamer

D. tap

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Q137 Part B (Heat Engine)

A maintenance free battery - Choose the correct answer.

- A. Has lead-calcium plate grid ✓
- B. Does not contain water
- C. Has lead-antimony plate grid
- D. Does not contain acid

Q138 Part B (Heat Engine)

A mechanism used to control the speed of an engine is called -Choose the correct answer.

- A. Governor ✓
- B. Regulator
- C. Speedometer
- D. Odometer

Q139 Part B (Heat Engine)

The purpose of dynamo is – Choose the correct option.

- A. Convert mechanical energy into electrical energy
- B. Continually recharge the battery ✓
- C. Act as reservoir of electrical energy
- D. Supply electric power

Q140 Part B (Heat Engine)

While using the vernier height gauge ,it must be placed on _____- Identify

- A. Vee block
- B. Surface plate ✓
- C. Cylinder head
- D. Crank shaft

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Q141 Part B (Heat Engine)

The purpose of the injector provided on a diesel engine is to inject -Choose the correct answer.

A. Lubricant in the cylinder

B. Fuel in the cylinders ✓

C. Lubricant in the bearings

D. Coolant in the cylinder jacket

Q142 Part B (Heat Engine)

The angle of a drill bit is _____

A. 118^{o}

B. 119^{o}

C. 59^{o} ✓

D. 115^{o}

Q143 Part B (Heat Engine)

What is the composition of Gun metal?

A. Copper ,Zinc and nickel

B. Lead and zinc

C. Copper, Tin and zinc ✓

D. Lead and nickel

Q144 Part B (Heat Engine)

A fuse in an electrical circuit 'blows' as a result of a high - Choose the correct option

A. Voltage caused by a short circuit

B. Voltage caused by an open circuit

C. Current flow caused by a short circuit ✓

D. Current flow caused by an open circuit

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Q145 Part B (Heat Engine)

The tool, which is used for laying out diameter is

- A. Divider ✓
- B. Scriber
- C. Outside micrometer
- D. Tri square

Q146 Part B (Heat Engine)

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

- A. Centre punch
- B. Go Gauge
- C. Vernier height gauge
- D. Try square ✓

Q147 Part B (Heat Engine)

Scavenging is done to maintain - Choose the correct answer.

- A. Speed
- B. Power output ✓
- C. Oil pressure
- D. Fuel consumption

Q148 Part B (Heat Engine)

The study of pneumatics deals with systems operated with - Choose the correct answer.

- A. Solid material
- B. Oil
- C. Air ✓
- D. Water

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Q149 Part B (Heat Engine)

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

A. Dynamo meter ✓

B. Torque wrench

C. Energy meter

D. Indicator

Q150 Part B (Heat Engine)

The coolant used for reaming aluminum work piece is - Choose the correct option

A. Water

B. Lard oil

C. Air pressure

D. Kerosene ✓

Q151 Part B (Heat Engine)

The ratio between BHP and IHP is called - Choose the correct answer.

A. Engine efficiency

B. Thermal efficiency

C. Power efficiency

D. Mechanical efficiency ✓

Q152 Part B (Heat Engine)

To increase output voltage, battery cells are connected in - Choose the correct answer.

A. Series ✓

B. Parallel

C. Series-parallel

D. inclined

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Q153 Part B (Heat Engine)

A lubricant oil is needed to run the machine_____

A. With increased friction

B. Without noise ✓

C. quickly

D. With cleanliness

Q154 Part B (Heat Engine)

Water circulation in a thermo-syphon cooling system is caused by-Choose the correct option

A. Conduction currents

B. A belt driven water impeller

C. A gear driven water pump

D. The change in density of the water ✓

Q155 Part B (Heat Engine)

A rivet is specified by the diameter of its-Choose the correct answer.

A. Tail

B. Head

C. length

D. Shank ✓

Q156 Part B (Heat Engine)

The vernier caliper is used for measuring-

A. Roundness

B. Flatness

C. Shape

D. Thickness ✓

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Q157 Part B (Heat Engine)

A hole is drilled between the crankshaft main journal and crank pin for - Choose the correct option

- A. Lubricating the connecting rod bearings ✓
- B. Reducing crankshaft weight
- C. Balancing the crank shaft
- D. Reducing the crank shaft vibrations

Q158 Part B (Heat Engine)

The instrument used to measure cylinder bore diameter is - Choose the correct answer.

- A. Vernier caliper
- B. Bore dial gauge ✓
- C. Telescopic gauge
- D. Outside micrometer

Q159 Part B (Heat Engine)

Which of the following are not symptoms of poor clutch operation

- A. increase in engine noise when pedal press ✓
- B. Vibration of engine
- C. Difficulty in gear shifting when pedal press
- D. pedal gets stuck when pressed

Q160 Part B (Heat Engine)

Which of the following is a part of the combination set?

- A. Socket spanners ✓
- B. Square head
- C. Protractor head
- D. Steel rule

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Q161 Part B (Heat Engine)

The ignition condenser - Choose the correct option

A. Increases contact arcing

B. Protects plugs from load

C. Reduces secondary spark

D. Reduces arcing at contacts ✓

Q162 Part B (Heat Engine)

The rate of doing work is called - Choose the correct answer.

A. Force

B. Energy

C. Torque

D. Power ✓

Q163 Part B (Heat Engine)

The grooves provided on the entire length of the body of a twist drill are called - Choose the correct answer.

A. Margins

B. Lips

C. Flutes ✓

D. webs

Q164 Part B (Heat Engine)

Air fuel mixture in a petrol engine is burnt in - Choose the correct answer.

A. Piston

B. Exhaust manifold

C. Intake manifold

D. Cylinder ✓

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Q165 Part B (Heat Engine)

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

A. Fuel explosion

B. Fuel burst

C. Fuel knock ✓

D. Fuel thrust

Q166 Part B (Heat Engine)

In diesel engine the fuel is ignited by - Choose the correct answer.

A. A spark plug

B. A glow plug

C. Virtue of temperature of compressed air ✓

D. An injector

Q167 Part B (Heat Engine)

The function of alternator in a vehicle is to - Choose the correct answer.

A. Charge the battery ✓

B. Discharge the battery

C. Measure the current

D. Measure the voltage

Q168 Part B (Heat Engine)

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

A. Screw gauge

B. Caliper

C. Micrometer

D. Dial indicator ✓

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Q169 Part B (Heat Engine)

The purpose of thermostat is to keep the engine - Choose the correct answer.

A. At desired temperature ✓

B. Warm

C. Hot

D. Cool

Q170 Part B (Heat Engine)

Indicated work per cycle is equal to - Choose the correct answer.

A. Mean effective pressure x stroke volume ✓

B. Mean effective pressure x stroke length

C. Mean effective pressure x bore arc

D. Mean effective pressure x bore diameter

Q171 Part B (Heat Engine)

The electronic ignition system is triggered on and off through_____.

A. Permanent magnet

B. Diode

C. Contact breaker

D. Trigger ✓

Q172 Part B (Heat Engine)

The point angle of twist drill for general purposes is - Choose the correct answer.

A. 90^0

B. 60^0

C. 135^0

D. 118^0 ✓

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Q173 Part B (Heat Engine)

The drive for the diesel fuel feed pump is taken from the - Choose the correct option

A. Fuel injection camshaft ✓

B. Engine camshaft

C. Timing gears

D. Crankshaft

Q174 Part B (Heat Engine)

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

A. 120^{o}

B. 30^{o}

C. 90^{o} ✓

D. 60^{o}

Q175 Part B (Heat Engine)

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

A. Hydraulically

B. Pneumatically ✓

C. Frictionally

D. Magnetically

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