



SHAKTHII ACADEMY

Increasing Confidence ; Reaching Goals

RRB ALP & TECHNICIANS 2018 - 31 Aug shift 2

1. If X's mother is the only daughter of Y's father, then Y's husband is X's

1. Son 2. Uncle **3. Father** 4. Brother

2. Find the value of the given expression.

$$6 - 36 \times 3 \div 6 + 5 = ?$$

1. 7 **2. -7** 3. 42/11 4. - 42/11

3. 9800 joule of energy was spent to raise a mass of 80 kg. The mass was raised to a height of :

1. 10.5 m 2. 15.0 m **3. 12.5 m** 4. 22.5 m

4. A sphere is split in the ratio 1 : 3. the larger part is molded into a cone having a height equal to the radius of its base, while the smaller part molded into a cylinder having a height equal to the radius of its base. What would be the ratio of the radius of the cone to the height of the cylinder?

1. $\sqrt[3]{3} : 1$ 2. 3 : 1 **3. $\sqrt[3]{9} : 1$** 4. $1 : \sqrt[3]{3}$

5. What is the cost price of an article when selling price is Rs. 2592 and the gain is 8%?

- 1. Rs. 2400** 2. Rs. 2200 3. Rs. 2385 4. Rs. 2264



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6.

According to the given graph, the highest earnings was on:

1. Friday 2. Monday 3. Wednesday

4. Thursday

7. The Indian cricket team won the 5th edition of Blind Cricket World Cup 2018 by defeating which country in the final by two wickets at Sharjah in United Arab Emirates (UAE)?

1. **Pakistan** 2. UAE 3. Nepal 4. Bangladesh

8. Which of the following statements is true?

1. The term 'Genetics' was coined by J. D. Watson in 1906.
2. In human beings, there are 46 chromosomes, Of these. 42 (21 pairs) are autosomes and 4 (2 pairs) are sex chromosomes.
3. Mendel was the first scientist to visualise a gene as an inheritance in 1886.

4. A DNA molecule is made up of two long polynucleotide strands forming a double helical structure (double helix) just like a spiral staircase.

9. Who among the following scientists postulated the Law of Constant Proportions?

1. **Joseph Proust** 2. Jacques Charles 3. Antoine Lavoisier
4. Robert Boyle



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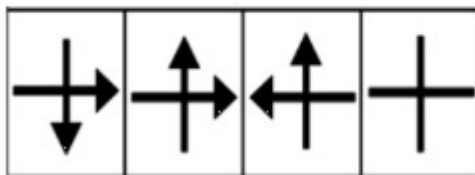
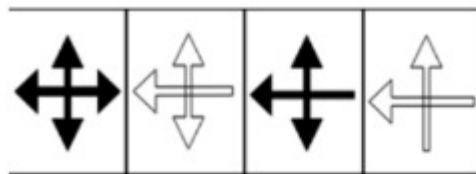
10. The first photosynthetic oxygen liberating organisms to appear on earth were:

1. Green algae **2. Cyanobacteria** 3. Bacteria
4. Bryophytes

11. The first photosynthetic oxygen liberating organisms to appear on earth were:

1. Green algae **2. Cyanobacteria** 3. Bacteria
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12. Select the option that will come next in the following figure series.



A B C D

1. C

2. B

3. D

4. A

13. If 24.2kg of ghee costs Rs. 12525.92, how much would 8.5kg of the same ghee cost?

1. Rs. 5239.50 2. Rs. 4675.20 **3. Rs. 4399.60** 4. Rs. 4980.30

14. By which least number should 1568 be divided so that the resultant number is a perfect square?

1. 5 2. 6 3. 3 **4. 2**



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15. Consider the given argument and decide which of the given assumptions is (are) implicit.

Argument:

In City X, people prefer to buy Honda bike instead of Bajaj, as Honda company brings in Japanese technology.

Assumptions:

1. If Bajaj used Japanese technology, then its sales also would be at par with Honda company.
2. Bikes with Japanese technology are preferred than other bikes in City X.

1. Both 1 and 2 are implicit.
2. Only assumption 1 is implicit.
3. Neither 1 nor 2 is implicit.
- 4. Only assumption 2 is implicit.**

16. What is the SI unit of electric current?

- 1. Amperes**
2. Watts
3. Coulombs
4. Joules

17. Which of the following is NOT malleable?

1. Copper
- 2. Graphite**
3. Silver
4. Aluminium

18. Fill in the blank with the most appropriate option.

Quicklime reacts with water to form _____.

1. limestone
- 2. slaked lime**
3. chloride of lime
4. chalk powder

19. An electric lamp of 100 W is used for 5 hours per day How much energy will be

consumed by the lamp in 3 days'1

- 1. 1.5 units**
2. 5.0 units
3. 0.5 units
4. 1.0 units

20. Pointing to Ms. Y, Mr. X said 'Her father's wife's only sister is my only maternal aunt'.

Then Ms. Y's husband is Mr. X's _____.



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1. Brother **2. Brother in law** 3. Father 4. Uncle

21.



A



B



C



D

Select the picture that does not belong to the group

1. D **2. A** 3. B 4. C

22. In which of the following groups of the modern periodic table are the noble gases placed?

1. 17 2. 15 **3. 18** 4. 16

23. Which country won the 2017 ICC Women's Cricket World Cup defeating India in the final?

1. New Zealand 2. Australia **3. England** 4. West Indies

24. _____ is concerned with cell division.

1. Gibberellin 2. Auxins 3. Maleic hydrazide

4. Cytokinin

25. Which of the given statements is-are true?

A. The 2nd group elements are called Alkali metals.

B. The 1st group elements are called Alkaline metals

C. The 17th group elements are called Halogens.

1. Only A 2. B and C **3. Only C** 4. A and C



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26. The square root of which of the following numbers is irrational?

1. 4489 **2. 7840** 3. 1024 4. 2916

27. In Newlands' table, the elements _____ were placed with halogens.

1. Ce and La 2. Fe and Se **3. Co and Ni** 4. Mn and As

28. Who is the only president in US history till date to have served two non-consecutive terms as US President?

1. Gerald Ford **2. Grover Cleveland** 3. George Washington
4. Herbert Hoover

29. From each corner of a square with an edge of 4 cm, a 1 cm segment was chopped off from each side containing a vertex. What is the perimeter and the area of the octagon thus created?

1. $4 + 4\sqrt{2}$ cm; 14 cm^2 **2. $(8 + 4\sqrt{2}) \text{ cm}; 14 \text{ cm}^2$** 3. 16 cm, 12 cm^2
4. $4\sqrt{2}$ cm; 14 cm^2

30. Which of the following organelles are called the Protein Factories of the cell?

1. Lysosomes 2. Mitochondria 3. Chloroplasts **4. Ribosomes**

31. The book 'Anything but Khamosh: The Shatrughan Sinha Biography' is authored by:

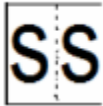
- 1. Bharathi S Pradhan** 2. Khaled Ahmed 3. Shatrughan Sinha
4. Deepti Naval



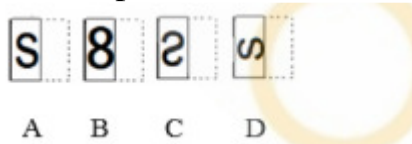
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32.



If the transparent sheet is folded at the dotted line, then the resulting figure is.



1. A

2. B

3. D

4. C

33. A steel rod of length $20 \frac{3}{26}$ is cut out from a rod of length $56 \frac{1}{5}$. What then is the remaining length of the rod?

1. $36 \frac{3}{130}$

2. $36 \frac{7}{130}$

3. $36 \frac{11}{130}$

4. $36 \frac{1}{130}$

34.



Based on the given graph, the difference in the earnings was the highest between:

1. Tuesday and Wednesday

2. Sunday and Monday

3. Friday and Saturday

4. Monday and Tuesday



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35. The ratio of the measures of an interior angle of a regular hexagon to that of a regular dodecagon is:

1. 1 : 3 2. 3 : 4 3. 6 : 12 **4. 4 : 5**

36.

Stu/Sub	P	C	B	M
W	70	90	50	85
X	55	80	95	60
Y	60	20	90	40
Z	90	80	40	65

The given table represents the marks obtained by four students W, X, Y and Z in four subjects P, C, B and M, with the maximum marks in each subject being 100.

The difference between the highest and the lowest percentage (P, C, M and B together) among the four students is:

1. 21.20 **2. 21.25** 3. 21.52 4. 21.75

37. Which famous actor/actress who has worked with Merchant Ivory Productions in various English movies died in December 2017?

1. Om Puri **2. Shashi Kapoor** 3. Reema Lagoo
4. Vinod Khanna

38. Which of the fractions given below, when added to $\frac{5}{7}$, gives 1?

- 1. $\frac{6}{21}$** 2. $\frac{4}{2}$ 3. $\frac{6}{14}$ 4. $\frac{5}{3}$

39. What is the wavelength of a sound wave whose frequency is 820 Hz and speed is 420 m/s in a given medium?

1. 3.52 m 2. 2.52 m 3. 1.52 m **4. 0.52 m**



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40. If $a + 1/a = 1$, find the value of $a^3 + 1/a^3$

1. 2 **2. -2** 3. 0 4. 1.5

41. Consider the given argument and decide which of the given assumptions is (are) implicit.

Argument:

During the depression in the Bay of Bengal, the wind blew away all the hoardings.

Assumptions:

1. The wind was fast.
2. The hoardings were not fixed properly.
- 1. Either 1 or 2 is implicit.** 2. Only assumption 1 is implicit.
3. Only assumption 2 is implicit. 4. Both 1 and 2 are implicit.

42. Which one of the following elements is polyatomic?

- 1. Sulphur** 2. Sodium 3. Argon 4. Oxygen

43. 18% of 60 is 54% of _____

1. 30 2. 180 3. 40 **4. 20**

44. India's first touch-and-feel garden for visually impaired was inaugurated by the Kerala Assembly Speaker P Sreeramakrishnan in which of the following campuses in Thenhipalam, Kerala?

1. University of Kerala **2. Calicut University Campus**
3. Bharathiar University Campus 4. Kannur University Campus

45. If Anju scored 68 out of 80 in Hindi, 46 out of 60 in Mathematics. 74 out of 90 in Science, and 34 out of 45 in English, in which subject did Anju score the maximum percentage marks?

1. Science **2. Hindi** 3. Mathematics 4. English



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

Butter : Milk :: Oil : _____

1. Grains **2. Seeds** 3. Soap 4. Flourmill

47. Consider the given statements true and decide which of the given conclusion(s) logically follow(s) from the statements

Statements:

- 1 All reds are yellows
2 Some yellows are not greens

Conclusions:

1. Some yellows are reds
2. All yellows are greens

1. Only conclusion 1 follows.

2. Only conclusion 2 follows.

3. Both conclusions 1 and 2 follow.

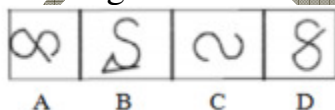
4. Neither conclusion 1 nor 2 follows.

48. The given Problem Figure is embedded in one of the given Answer Figures. Which is that Answer Figure?

Problem Figure



Answer Figures



1. D 2. A **3. B** 4. C

49. Using the sequence 5JA8K6G4OC1659NLEPUF, select the term that does NOT belong to the following series.

AG, IN, 46, NF



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1. NF

2. 46

3. 1N

4. AG

50. Consider the given statement and decide which of the given assumptions is (are) implicit in the statement.

Statement:

A person quoted. "Pride hath a fall".

Assumptions:

1. Those who fall have pride.
2. Having pride can be counter-productive.

1. Only assumption 1 is implicit.
2. Both assumptions 1 and 2 are implicit.
3. Either assumption 1 or 2 is implicit.
- 4. Only assumption 2 is implicit.**

51. The pitch of a sound depends on its:

1. amplitude
- 2. Frequency**
3. Timbre
4. intensity

52. If the second half of the given series is reversed, then how many letters, from left to right, is preceded by a letter and succeeded by a number?

9\$ YX8N6OLBU JZT@ 1QFD%

1. 3
- 2. 2**
3. 1
4. 0

53. Which of the following numbers will have an irrational square root?

1. 1225
2. 625
- 3. 1825**
4. 3025

54. Read the following question and decide which of the given statements is /are sufficient

Question

The average marks of X, V, Z is 180. What is X's mark?

Statements

1. Y and Z together score 50 marks



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2. X and Z together score 60 marks

1. Both 1 and 2 together are sufficient

2. Either 1 or 2 is sufficient

3. 1 alone is sufficient while 2 alone is not sufficient

4. 2 alone is sufficient while 1 alone is not sufficient

55. A car runs at a speed of 65 km /hr to reach its destination in 45 minutes. What should be its speed for it to reach the destination in 36 minutes?

1. 65

2. 74

3. 52

4. 81.25

56. The simple interest on a certain sum for 3 years at 8% p.a is Rs. 90 more than simple interest at 9% p.a for 2 years on the same sum. The sum is (in rupees):

1. Rs. 1850

2. Rs. 1500

3. Rs. 1900

4. Rs. 2250

57. Mugdha and Mayuri, working together, can complete a job in 18 days. However, Mayuri works alone and leaves after completing two-fifths of the job and then Mugdha takes over and completes the remaining work by herself. As a result, the duo could complete the job in 39 days. How many days would Mugdha alone have taken to do the job if Mayuri worked faster than Mugdha?

1. 72

2. 30

3. 24

4. 45

58. Which of the following statements is are INCORRECT?

A. The ratio of the force of gravitation between two masses. m^1 and m^2 kept at a distance R on the earth and on the moon is 1 : 1.

B. Nm^2/kg^2 is the SI unit of G

C. The value of G depends on the distance between the bodies.

D. The value of G depends on the masses of the bodies

1. D, B and C

2. None

3. B and C

4. Only B



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59. Name the rocket scientist who has been appointed as the Secretary of the Department of Space (DoS) and the Chairman of Space Commission and Indian Space Research Organisation (ISRO).

1. Dipan Ghosh **2. K. Sivan** 3. K.Sridhar
4. C .Mohan

60. In which Indian city is the headquarters of the Coir Board located?

1. Mumbai 2. Madurai **3. Cochin** 4. Bengaluru

61. The sum of the lengths of the edges of a cube is equal to twice the perimeter of a square. If a quarter of the numerical value of the volume of the cube is equal to the numerical value of the area of the square, then the length of one side of the square is:

- 1. 13.5 units** 2. 9 units 3. 27 units 4. 10.5 units

62. What is the sum of the first 16 terms of the given series:
6, $13/2$, 7, $15/2$

1. $311/2$ 2. 157 3. $313/2$ **4. 156**

63. A question is given followed by two statements. Decide which of the given statements is sufficient to answer the question.

What is the percentage increase in profit of Company X in 2016 with respect to that in 2014?

Statements:

1. Company profit in 2014 was Rs. 1 lakh, which is 10% more than that in 2015.
2. Company profit in 2016 was Rs. 2 lakh, which was Rs. 1 lakh more than that in 2014.

1. 1 alone is sufficient while 2 alone is not sufficient.
2. Both 1 and 2 are sufficient.

3. 2 alone is sufficient while 1 alone is not sufficient.

4. Either 1 or 2 is sufficient.



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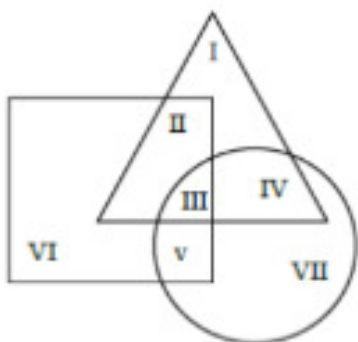
64. Which of the following is a chemical reaction?

1. Drying of wet clothes
2. Melting of ice
3. Sublimation of Iodine crystals

4. Butter turning rancid

65. Who was the chief guest at India's 68th Republic Day celebrations?

- 1. Sheikh Mohammed Bin Zayed Al Nahyan**
2. Kajib Abdul Razak
3. Angela Merkel
4. Aung San Suu Kyi



66.

In the given diagram, triangle represents the set of people who possess a car; square represents the set of people who possess a house; and circle represents the set of people who possess gold.

What is the total number of people who possess a car and gold but do not have a house?

1. IV + III
- 2. IV**
3. VII + IV
4. I + IV + VII

67. If pointing to Mr. X, Ms. Y said that Mr. X's wife is the only daughter of Ms. Y's father,

then Ms. Y is Mr. X's _____.

1. Mother
2. Sister-in-law
3. Daughter
- 4. Wife**



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68. Read the following question and decide which of the given statements is/ are sufficient.

Question:

Does mobile phone usage among students affect their performance in exams?

Statements:

1. This year, the number of failures in exams are more.
2. Mobile phone generates harmful radiations and has many health hazards.

1. Neither 1 nor 2 is sufficient to answer the question.

2. 2 alone is sufficient while 1 alone is not sufficient to answer the question.
3. 1 alone is sufficient while 2 alone is not sufficient to answer the question.
4. Both 1 and 2 together are sufficient to answer the question.

69. Read the given statement and decide which of the suggested courses of action logically follow(s) on the basis of the information given in the statement.

Statement:

Though the syllabus is revised from time to time, the textbooks are outdated.

Course of Action:

1. Industrial experts should be invited for lectures in the class.
2. Industrial visits should be arranged to update the current trend in the industry.

1. Only 2 follows.
- 2. Both 1 and 2 follow.**
3. Either 1 or 2 follows.
4. Only 1 follows.

70. If $\tan \theta = 1/\sqrt{5}$, find the value of $\operatorname{cosec}^2\theta - \sec^2\theta$

1. 12/5
2. 1/5
3. 13/5
- 4. 24/5**

71. If 19th May 2012 was a Saturday, what day was 1st April 2014?

1. Thursday
2. Friday
3. Monday
- 4. Tuesday**



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72. Kacheguda railway station - India's first energy-efficient 'AI Category' railway station - is situated in which of the following states?

1. Telangana

2. Andhra Pradesh

3. Tamil Nadu

4. Karnataka

73. A fraction when added to $\frac{7}{3}$ gives 4. What is the fraction?

1. $\frac{2}{3}$

2. $\frac{13}{2}$

3. $-\frac{1}{1}$

4. $\frac{1}{3}$

74. Which of the following statements is /are correct or incorrect?

Statements:

A) The rotation of Earth is responsible for wind blowing.

B) A fuel would be regarded as environment friendly if its combustion products were non-poisonous.

C) Coal is a complex mixture of compounds of O_2H_2 and half free carbon. A small amount of Nitrogen and Sulphur compounds are also present in coal.

1. Statement A and B are correct, statement C is incorrect

2. Only statement A is correct statement B and C are incorrect

3. Only statement B is correct, statement A and C are incorrect

4. All the statements are incorrect

75. In ΔABC , $AB = 12$ cm. $\angle A$ is bisected internally to intersect BC at D, $BD = 7$ cm and $DC = 8.75$ cm. What is the length of CA?

1. 12.5 cm

2. 14.5 cm

3. 15 cm

4. 13.5 cm

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