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FREE MOCK PAPER WITH SOLUTIONS

Railway Exam 2016

FREE Mock Test for Railway 2016 Exam

1. India War of Independence 1857' is written by
   (a) S. N. Sen   (b)R C Majumdar
   (c) V D Savarkar   (d)S B Chaudhari

2. Rotation of the earth causes deflection of wind by
   (a) Coriolis force   (b) Dynamic force
   (c) Gradient force   (d) Gravity force

3. What does happens when water is condensed into ice?
   (a) Heat is absorbed
   (b) Heat is released
   (c) Quantity of heat remains unchanged
   (d) None of the above

4. The highest grade and best quality coal is
   (a) Lignite   (b) Peat
   (c) Bituninous   (d) Anthracite

5. Energy that is produced commercially from coal is called
   (a) Light energy   (b) Kinetic energy
   (c) Thermal energy   (d) Potential energy

6. The island of Corsica is associated with
   (a) Mussolini   (b) Hitler
   (c) Napolean Bonaparte
   (d) Winston Churchill

7. Who among the following Mughal Emperors had the longest reign?
   (a) Bahadur shah
   (b) jahandar shah
   (c) Farrukhsiyar
   (d) Mohammad shah

8. Vandey Matram was first sung at the session of the Indian National Congress in
   (a)1886   (b) 1892
   (c) 1896   (d) 1904

9. Which of the following states is a member of the 'seven sister'?
   (a)Paschim Banga   (b) Tripura
   (c)Odisha   (d) Bihar

10. The Finace Commission is constituted under Article………of the Constitution of India.
    (a)275   (b)280
    (c)282
    (d)None of the above

11. Which of the following organization has launched its first Uridashi Masala bonds?
    (a) International Monetary Fund (IMF)
    (b) International Finance Corporation (IFC)
    (c) Asian Development Bank (ADB)
    (d) BRICS Bank

12. The article of Indian Constitution related to abolition of untouchability is
    (a) Article 15   (b) Article 16
    (c) Article 17   (d)Article 18

13. A computer virus normally attaches itself to another computer program known as
    (a) Backdoor program
    (b) Target program
    (c) Trojan horse
    (d) Host program

14. The item 'Education' belongs to the
    (a) Union List   (b) State List
    (c) Concurrent List
    (d) Residuary Subjects

15. The world's most expensive train station has been opened in which city?
    (a) Washington
    (b) Berlin
    (c) Tokyo
    (d) New York

16. X-rays were discovered by
    (a)Roentgen   (b)Becquere
    (c)Curie   (d)Van lane

17. Which one of the following is not electromagnetic in nature?
    (a) Cathode rays   (b)X-rays
    (c) Gamma-rays   (d)Infrared rays

18. C, BASIC, COBOL and Java are example of language?
    (a) low-level   (b)computer
    (c) system programming
    (d) high level

19. What is the India's position in the latest Global Energy Architecture Performance Index Report?
    (a) 44
    (b) 86
    (c) 90
    (d) 112

20. Where is the headquarter of ONGC?
    (a) Mumbai   (b) Dehradun
    (c) Vadodra   (d) Digboi

21. Which is used in storage batteries?
    (a)Copper   (b) Lead
    (c)Tin   (d) Zinc

22. If the price of an inferior good falls, its demand
    (A) rises
    (B) falls

(C) remains constant

(D) can be any of the above

23. Who had estimated National Income in India first?

(a) Dadabhai Naoroji

(b) RC Dutt

(c) VKRV Rao

(d) DR Gadgil

24. Which foreign country is closest to Andaman Islands?

(A) Sri Lanka   (B) Myanmar

(C) Indonesia   (D) Pakistan

25. Which country has won the ICC U-19 Cricket World Cup 2016?

(a) India

(b) Sri Lanka

(c) Australia

(d) West Indies

26. During which vicerory, Queen Victoria was crowned with 'Kaiser i-Hind' in Delhi Durbar?

(a) Hastings

(b) Lytton

(c) Elgin

(d) Lord Minto

27. India is not a member of

(a)ASEAN   (b) SAARC

(c)WTO   (d) BRICS

28. Which one of the following elements is the poorest conductor of heat?

(a) sodium   (b) lead

(c) zinc   (d) mercury

29. When was the first passenger train run in India?

(a) January 1848

(b) April 1853

(c) May 1857

(d) April 1852

30. The ambassador of Emperor James I, who reached in the court of Jahangir in 1615 was __

(a) Sir James Hay

(b) Sir Thomas Roe

(c) Sir Thomas Howard

(d) Sir John Digby

31. Enzyme catalysis is an example of _____?

(A) Auto catalysts

(B) Heterogeneous

(C) Homogeneous catalysts

(D) Induced catalysts

32. The famous four wheeler vehicle 'Audi' belongs to which country.

(a)USA   (b) Japan

(c)Germany   (d) South Korea

33. Healing of wounds is hastened by vitamin

(a) A

(b) E

(c) C

(d) K

34. Which of the following is an air-borne disease?

(a) Measles

(b) Pink eye

(c) Typhoid

(d) Tuberculosis

35. The term "host with respect to the internet", means _____.

(a) A computer that is a stand-alone computer

(b) A computer that is connected to the Internet

(c) A computer reserved for use by the host

(d) A large collection of computers

36. Wait of human brain in gram is?

(a) 1350

(b) 1230

(c) 1100

(d) 1500

37. Branch of biology which deals with the study of identification, nomenclature and classification on organism is___.

(a) Exobiology

(b)Ecology

(c)Taxonomy

(d) Toxicology

38. To eliminate the glare of headlights in motor cars

(a) thin films are used

(b) filters are used

(c) polaroids are used

(d) glass prisms are used

39. The ultimate source of energy in a hydroelectric power station is:

(a) solar energy

(b) the potential energy of water

(c) the kinetic energy of water

(d) the electro-chemical energy of water

40. Which day is celebrated as 'Hindi-Divas'?

(a)12 march   (b) 14 September

(c)2 June   (d) 25 December

41. President of India Pranab Mukharjee belongs to which state of India?

(a)Tripura   (b) West-bengal

(c)Uttranchal   (d) Maharashatra

42. The branch of agriculture which deals with the feeding, shelter, health and breeding of the domestic animals is called

(a) Dairy Science   (b) Veterinary Science
(c) Poultry   (d) Animal Husbandry

43. Who has become the youngest person to climb the Mt. Kangchenjunga base camp in Sikkim?
(a) Vasay Kumari
(b) Suryassangyini Chaudhary
(c) Vaasangyan Reddy
(d) Mansi Chopra

44. Which of the following state government has launched awareness programme to protect sparrows?
(a) Madhya Pradesh
(b) Uttar Pradesh
(c) Bihar
(d) Punjab

45. Electro-static precipitator is used to control
(a) Chemical Pollutants
(b) Radio-active Pollutants
(c) Water Pollutants
(d) Air Pollutants

46. Out of 450 students of a school 325 play football, 175 play cricket and 50 neither playfootball nor cricket. How many students play both football and cricket?
(a) 50   (b) 100
(c) 75   (d) 322

47. How many spheres of diameter 2 cm can be made by melting one sphere of radius 4 cm?
(a) 128   (b) 32
(c) 64   (d) 16

48. 4 men can complete a piece of work in 2 days. 4 women can complete the same piece of work in 4 days whereas 5 children can complete the same piece of work in 4 days. If 2 men, 4 women and 10children work together, in how many days can the work be completed?
(a) 1   (b) 3
(c) 2   (d) 4

49. The average marks of 28 students in Mathematics was 50. Eight left the school and thus the average increased by 5. What is the average marks obtained by the students who left the school?
(a) 50.5   (b) 42.5
(c) 45   (d) 37.5

50. Due to fall in manpower , the production in a factory decreases by 40%, By what percentage should the working hours be increased to restore the original level of production?
(a) 66 2/3 %   (b) 46 1/3 %
(c) 25%   (d) 40%

51. A jar contains a mixture of 2 liquids A and B in the ratio 4:1. When 10litres of the mixture is taken out and 10 litres of liquid B is poured into the jar, the ratio becomes 2:3. How many litres of the liquid A was contained in the jar?
(a) 17 litres   (b) 16 litres
(c) 18 litres   (d) 15 litres

52. Three times a number is 20% more than twice another number when increased by 105. If twice the first number increased by 36 is 20% less than three times of the second number, then what is the first number?
(a) 150   (b) 162
(c) 180   (d) None of these

53. By selling 100 orange, a vendor gains the selling price of 20 oranges. His gain percentage is
(a) 20%   (b) 25%
(c) 30%   (d) 32%

54. If A:B = 3:4, B:C = 5:7 and C:D = 8:9, then A:D is equal to
(a) 3:7   (b) 7:3
(c) 21:10   (d) 10:21

55. A box measures 30cm * 24cm * 18cm. The longest rod that can be placed in it has the length
(a) 16 cm   (b) 30 cm
(c) 42.42 cm   (d) 42.52 cm

56. Of the three numbers, the first number is twice of the second and the second is thrice of the third number. If the average of these 3 numbers is 20, then the sum of the largest and smallest numbers is
(a) 24   (b) 42
(c) 54   (d) 60

57. Which of the following fractions are in ascending order?
(a) $\frac{11}{52}, \frac{7}{26}, \frac{4}{13}$ (b) $\frac{7}{26}, \frac{4}{13}, \frac{11}{52}$
(c) $\frac{4}{13}, \frac{7}{26}, \frac{11}{52}$ (d) $\frac{7}{26}, \frac{11}{52}, \frac{4}{13}$

58. The marked price of a pant and T-shirts are in the ratio 1 : 2. The shopkeeper gives 40 % discount on the pant. If the total discount on the set of the pant and T-shirts is 30%. Find the discount offered on the T-shirts.
(a) 30%   (b) 24%
(c) 25%   (d) 32%

59. The least number which when divided by 5,6,7 and 8 leaves a remainder 3, but when divided by 9 leaves no remainder, is :
(a) 1683   (b) 1583
(c) 1666   (d) 1687

60. The missing term in the sequence
0, 3, 8, 15, 24, ... , 48
(a) 35   (b) 30
(c) 36   (d) 39

61. The compound interest on Rs. 10000 in 2 yr at 4% per annum, the interest being compounded half-yearly, is
(a) Rs. 636.80   (b) Rs. 824.32
(c) Rs. 912.83   (d) Rs. 828.82

62. The difference between the compound interest, compounded every six months, and the simple interest on a certain sum of money at the rate of 12% per annum for one year is Rs. 36, the sum is
(a) Rs. 10000   (b) Rs. 12000
(c) Rs. 15000   (d) Rs.9000

63. The value of $\dfrac{1\frac{1}{4} \div 1\frac{1}{2}}{\frac{1}{15} + 1 - \frac{9}{10}}$ is
(a) 3   (b) 6
(c) 5/2   (d) 5

64. The mean temperature of Monday to Wednesday was 37^0 C and of Tuesday to Thursday was 34^0 C .If the temperature on Thursday was 4/5 that of Monday, the temperature on Thursday was
(a) 36.5^0 C   (b) 36^0 C
(c) 35.5^0 C   (d) 34^0 C

65. The least number which must be added to 1721 so that it obtain a perfect cube , is
(a) 7   (b) 8
(c) 11   (d) 13

66. 40 minutes more is required to cover a certain distance at a speed of 6km/h. than covering the same distance at a speed of 8km/h. The distance covered in km is
(a) 8   (b) 12
(c) 14   (d) 16

67. A man takes 4 hours and 30 minutes to walk a certain distance and riding back. He could walk both ways in 8 hours 20 minutes. The time he will take to ride both ways is
(a) 20 minutes   (b) 30 minutes
(c) 40 minutes   (d) 1 hour

68. Divide Rs. 990 into 3 parts in such a way that half of the first part, one third of the second part and one fifth of the 3rd part are equal.
(a) Rs.200, Rs.300, Rs.490 (b) Rs.196, Rs.298, Rs.496
(c) Rs.198, Rs.494, Rs.298 (d) Rs.198, Rs.297, Rs.495

69. A boat goes 6km an hour in still water but takes 3 times as much time in going the same distance against the current. The speed of the current in (km/h) is :
(a) 4   (b) 3
(c) 5   (d) 2

70. The difference between discount of 40% on 500 and two successive discount of 30% and 10% on the same amount is

(a) Rs.15   (b) Rs.0
(c) Rs.200   (d) Rs.10

Directions (96–100): The circle graph given here shows the spending by a family on various items during the year 2010. Study the graph and answer the questions.
(Percent of money spent by a family on various items during 2010)
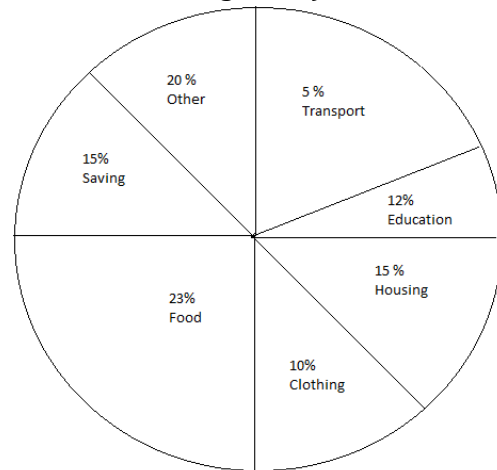
71. If the total amount spent during the year 2010 was Rs. 46000, the amount spent on food, was :
(a) Rs. 2000   (b) Rs. 10580
(c) Rs. 23000   (d) Rs. 2300

72. If the total amount spent was Rs. 46000, how much was spent on clothing and housing together?
(a) Rs. 11500   (b) Rs. 1150
(c) Rs. 10000   (d) Rs. 15000

73. The ratio of the total amount of money spent on housing to that spent on education was :
(a) 5 : 2   (b) 2 : 5
(c) 4 : 5   (d) 5 : 4

74. Graph shows that the maximum amount was spent on :
(a) Food   (b) Housing
(c) Clothing   (d) Others

75. If the total expenditure of the family for the year 2010 was Rs. 46000, the family save during the year .
(a) Rs. 1500   (b) Rs. 15000
(c) Rs. 6900   (d)Rs.3067appro

76. In a row of fourty children, P is twenty third from the left end and Q is twenty seven from the right end. How many children are there between P and R, if R is fourth from the left of Q?
(a) 12 (b) 13
(c) 14 (d) 15

77. E is the sister of B. A is the father of C. B is the son of C. How is A related to E?
(a) Grandfather (b) Granddaughter
(c) Father (d) Great-Grandfather

78. Four diagrams are given for each question. Choose the best diagram that describes
Lemon, Citrus Fruits, Chocolates
(a) (b)
(c) (d)

79. Select the missing number from the given responses:

2	4	0
1	2	4
3	1	3
36	?	91

(a) 70 (b) 73
(c) 77 (d) 63

Directions (75-76): In the following question from among the given alternatives select the one which is different from the other alternatives

80. (a)HEAR (b) JUMP
(c) WALK (d) PULL

81. (a) Microbe (b) Microfilm
(c) Microphone (d) Microscope

Directions (17-22): In the following question from, a series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

82. 5760,960, ? , 48 , 16 , 8
(a) 240 (b) 192
(c) 160 (d) 120

83. 3,15,35,63, ?
(a) 77 (b) 84
(c) 99 (d) 98

84. DHL, PTX, BFJ, ?
(a) NRV (b) RVZ
(c) CGK (d) KOS

85. 22, 24, 28, ? 52 , 84
(a) 46 (b) 36
(c) 38 (d) 42

86. 110, 132, 156, ? , 210
(a) 162 (b) 172
(c) 182 (d) 140

Directions (87-88): Find the wrong number in the given number series.

87. 11, 2, 21, 3, 32, 4, 41, 5, 51, 6
(a) 21 (b) 11
(c) 32 (d) 51

88. 8, 27, 64, 100, 125, 216, 343
(a) 64 (b) 100
(c) 216 (d) 343

Directions (89-91): Select the one which is different from the other responses.

89. . (a) Confluence (b) Concourse
(c) Radiation (d) Concentration

90. (a) EFGIK (b) CDFIM
(c) BCEHL (d) ABDGK

91. (a) Bangalore (b) Nagpur
(c) Bhopal (d) Ranchi

92. Which one of the given responses would be a meaningful descending order of the following?
1. Major 2. Captain
3. Colonel 4. Brigadier 5.Lt. General
(a) 5, 4, 3, 1, 2 (b) 5, 1, 4, 2, 3
(c) 4, 5, 1, 3, 2 (d) 3, 4, 2, 5, 1

93. Certain equation are based on a certain system. Find out the correct answer for unsolved equation on that basis :
If 14 × 13 = 128 and
16 × 13 = 280
then 15 × 11 = ?
(a) 516 (b) 156
(c) 165 (d) 615

Direction (32): In the following question you have to identity the correct response from the given premises stated according to following symbols.

94. If > = 🔲🔲, 🔲🔲= ×, < = +, 🔲🔲= –, + = =, × = <, – = >
(a) 6 < 2 > 3 🔲🔲8 🔲🔲4 + 13 (b) 6 🔲🔲2 < 3 > 8 < 4 – 13
(c) 6 🔲🔲🔲2 < 3 🔲🔲8 > 4 × 13 (d) 6 > 2 🔲🔲🔲3 < 8 🔲🔲4 + 13

95. In a certain code language, MACH is coded as 4138. How is COER coded in the same language? (que no 41)
a) 3292 b) 3662
c) 3596 d) 3659

96. Two position of a dice are shown below what number come opposite of 3 number.
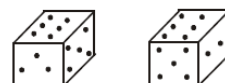
(a) 6 (b) 5

(c) 4   (d) 2

97. Aman is a 16th from the left end in a row of boys and Vivek is 18th from the right end. Gagan is 11th from Aman towards the right and 3rd from Vivek towards the right end How many boys are there in the row?

(a) 40   (b) 41

(c) 42   (d) 43

98. If the 3rd Saturday is on 21st then what would be the date before three days of 2nd Wednesday of the month?

(a) 8   (b) 14

(c) 9   (d) 16

99. How many Triangles are there in the given figure?
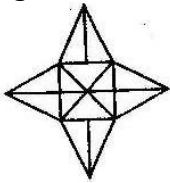
(a) 18   (b) 28

(c) 20   (d) 24

100. Select the answer figure in which the question figure is hidden/embded.

Question Figure

Answer Figure

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1. **(c) The Indian War of Independence** is an Indian nationalist history of the 1857 revolt by Vinayak Damodar Savarkar that was first published in 1909. The book, initially written in Marathi, was penned by Savarkar in response to celebrations in Britain of the 50th anniversary of the 1857 Indian uprising with records from India Office archives and the whole project received support from Indian nationalists in Britain including the likes of Madame Cama, V.V.S. Iyer and M.P.T. Acharya, as well as Indian students who had dared not show their support or sympathy for India House openly.

2. (b) In physics, the **Coriolis effect** is the apparent deflection of moving objects when the motion is described relative to a rotating reference frame. In a reference frame with clockwise rotation, the deflection is to the left of the motion of the object; in one with counter-clockwise rotation, the deflection is to the right. Although recognized previously by others, the mathematical expression for the **Coriolis force** appeared in an 1835 paper by French scientist Gaspard-Gustave Coriolis, in connection with the theory of water wheels. Early in the 20th century, the term Coriolis force began to be used in connection with meteorology.

3. (a) When water is condensed into ice heat is absorbed. Hence Option A is correct

4. (d) Anthracite is the most metamorphosed type of coal (but still represents low-grade metamorphism), in which the carbon content is between 92.1% and 98%. The term is applied to those varieties of coal which do not give off tarry or other hydrocarbon vapours when heated below their point of ignition. Anthracite ignites with difficulty and burns with a short, blue, and smokeless flame.

5. (c) In thermodynamics, **thermal energy** refers to the internal energy present in a system by virtue of its temperature. The average translational kinetic energy possessed by free particles in a system of free particles in thermodynamic equilibrium (as measured in the frame of reference of the center of mass of that system) may also be referred to as the thermal energy per particle.

6. (c)Napoleon was born in Corsica to a relatively modest family of noble Tuscan ancestry. Serving in the French army, Napoleon supported the Revolution from the outset in 1789 and tried to spread its ideals to Corsica, but was banished from the island in 1793.

7. (d) Bahadur Shah was the seventh Mughal emperor of India, ruled from 1707 until his death in 1712. Jahandar Shah was a Mughal Emperor who ruled for a brief period in 1712–1713. Farrukhsiyar, was the Mughal emperor between 1713 and 1719, after murdering Jahandar Shah. Mohammad shah was the Mughal emperor between 1719 and 1748.

8. (c) Vande Mataram literally, "I praise thee, Mother"—is a poem from Bankim Chandra Chatterjee's 1882 novel Anandamath. It was written in Bengali and Sanskrit. It is a hymn to the Mother Land. It played a vital role in the Indian independence movement, first sung in a political context by Rabindranath Tagore at the 1896 session of the Indian National Congress.

9. (b)The Seven Sister states are the contiguous states of Arunachal Pradesh, Assam, Meghalaya, Manipur, Mizoram, Nagaland and Tripura in northeastern India.

10. (b)The Finance Commission of India came into existence in 1951. It was established under Article 280 of the Indian Constitution by the President of India. It was formed to define the financial relations between the centre and the state.

11. (b)The **International Finance Corporation** (IFC), the investment arm of the **World Bank** has launched its first **Uridashi Masala Bonds** (Japanese bonds). These masala bonds were launched to mobilise **30 crore rupees** from **Japanese retail investors** and will be sold to Japanese household investors.

12. (b)Article 17 of the constitution abolishes the practice of untouchability. Practice of untouchability is an offence and anyone doing so is punishable by law. The Untouchability Offences Act of 1955 (renamed to Protection of Civil Rights Act in 1976) provided penalties for preventing a person from entering a place of worship or from taking water from a tank or well.

13. (c) Trojan horse, or Trojan, is software that appears to perform a desirable function for the user prior to run or install, but (perhaps

in addition to the expected function) steals information or harms the system.

14. (c)Through the 42nd Amendment Act of 1976 Five subjects were transferred from State to Concurrent **List.They are:**
Education
Forests
Weights & Measures
Protection of Wild Animals and Birds
Administration of Justice

15. (d) The world's most expensive train station has been opened in **New York**, Unites States. The station is designed by **Santiago Calatrava**, the Spanish-Swiss architect, who called it a gift of love to the city.

16. A. Wilhelm Conrad Röntgen 27 March 1845 – 10 February 1923) was a German physicist, who, on 8 November 1895, produced and detected electromagnetic radiation in a wavelength range known as X-rays or Röntgen rays, an achievement that earned him the first Nobel Prize in Physics in 1901.

17. A. Cathode rays (also called an electron beam or e-beam) are streams of electrons observed in vacuum tubes. If an evacuated glass tube is equipped with two electrodes and a voltage is applied, the glass opposite of the negative electrode is observed to glow, due to electrons emitted from and travelling perpendicular to the cathode (the electrode connected to the negative terminal of the voltage supply).

18. D. Ultimately, programs written in a high-level language must be translated into machine language by a compiler or interpreter. The first high-level programming languages were designed in the 1950s. Now there are dozens of different languages, including Ada, Algol, BASIC, COBOL, C, C++, FORTRAN, LISP, Pascal, and Prolog.

19. C. India has been ranked at the **90th place** in a list of **126 countries** in the latest Global Energy Architecture Performance Index Report compiled by **World Economic Forum** (WEF) on the basis of their ability to deliver secure, affordable and sustainable energy. The list is topped by **Switzerland** followed by Norway, Sweden, Austria, Denmark, etc.

20. B. Oil and Natural Gas Corporation Limited (ONGC) is an Indian multinational oil and gas company headquartered in Dehradun, Uttarakhand, India. It is a Public Sector Undertaking (PSU) of the Government of India, under the administrative control of the Ministry of Petroleum and Natural Gas. It is India's largest oil and gas exploration and production company. It produces around 69% of India's crude oil (equivalent to around 30% of the country's total demand) and around 62% of its natural gas.

21. (b) The electrodes of the cells in a lead storage battery consist of lead grids. The openings of the anodic grid is filled with spongy (porous) lead. The openings of the cathodic grid is filled with lead dioxide {PbO_2}. Dilute sulfuric acid {H_2SO_4} serves as the electrolyte. When the battery is delivering a current, i.e. discharging, the lead at the anode is oxidized.

22. (b)

23. (a) Dadabhai Naoroji (4 September 1825 – 30 June 1917), known as the Grand Old Man of India, was a Parsi intellectual, educator, cotton trader, and an early Indian political and social leader. He was a Liberal Party member of parliament (MP) in the United Kingdom House of Commons between 1892 and 1895, and the first Asian to be a British MP.

24. (a)

25. (d) The **West Indies** has won the 2016 ICC Under-19 Cricket World Cup title by defeating three time champion India in **Mirpur**, Bangladesh. This is the **first time** West Indies won the title.

26. (b) The Kaisar-i-Hind Medal for Public Service in India was a medal awarded by the British monarch between 1900 and 1947, to "any person without distinction of race, occupation, position, or sex who shall have distinguished himself (or herself) by important and useful service in the advancement of the public interest in India." The medal was instituted by Queen Victoria on April 10, 1900. During which viceroy of Lytton.

27. (a)

28. (b) A metal is an element, compound, or alloy characterized by high electrical conductivity. In a metal, atoms readily lose electrons to form positive ions (cations); those ions are surrounded by delocalized electrons, which are responsible for the conductivity. The thus produced solid is held by electrostatic interactions between the ions and the electron cloud, which are called metallic bonds.

29. (b) First Passenger Train Ran On: 16th April 1853 (between Bombay to Thane)

30. (b)As an ambassador of Emperor James l, Sir Thomas Roe reached in the court of Mughal

Emperor Jehandri at Agra in 1615. Jehangir presented him the Mansab of 400.

31. (b) Enzyme catalysis is the increase in the rate of a chemical reaction by the active site of a protein. The protein catalyst may be part of a multi-subunit complex, and may transiently or permanently associate with a Cofactor. Catalysis of biochemical reactions in the cell is vital due to the very low reaction rates of the uncatalyzed reactions.

32. (c)

33. (c) Vitamin C helps the body make collagen and is essential to wound healing because it helps the body form new tissue. Lower dose if diarrhea develops. Vitamin C supplements may interact with other medications, including chemotherapy drugs, estrogen, warfarin (Coumadin), and others.

34. (a) Many common infections can spread by airborne transmission at least in some cases, including: Anthrax (inhalational), Chickenpox, Influenza, Measles, Smallpox, Cryptococcosis, and Tuberculosis.

35. (b)The term host means no of system connected in a network. Network is nothing but internet.

36. (a) The mass of a newborn human brain is about 350-400g. The mass of an adult human brain is about 1,300 to 1,400 g. The brain makes up about two percent of the human's mass.

37. (c) Taxonomy is the science of naming, describing and classifying organisms and includes all plants, animals and microorganisms of the world.

38. (c) A film enclosed between glass plates is called Polaroid. K-polarised They are used to eliminate the glare of headlights in motor cars. K- Polaroid are fitted in each car with their vibration planes parallel but incline at 45o with the horizontal. When two cars approach each other from opposite directions, the transmission plane of the windscreen of each are at right angles to inclined light. Therefore the glare of the opposite headlight is completely eliminated.

39. (b) The most important part of the hydroelectric power plant is the dam, which acts as the water reservoir. The water flowing in the river comprises of kinetic energy and potential energy. In hydroelectric power plants the potential energy of water is utilized to produce electricity. The height of water in the reservoir decides how much potential energy water possesses. Higher the height of water more is its potential energy. The high

position of water in the reservoir enables it to move downwards effortlessly due to gravity.

40. (b)

41. (d)

42. (b)

43. (b) Ms. Suryassangyini Chaudhary has become the youngest girl to climb the 16,300 feet high Mt. Kangchenjunga base camp at Goechala, Sikkim. She is from Baraut in Baghpat district, Uttar Pradesh. Note:-Suryassangyini started her adventurous tour with her family on February 27 and hoisted the Indian flag at the 16,300 feet high base camp on March 7.

44. (b) Recently, Uttar Pradesh has launched awareness campaign at school levels to create awareness about conservation of birds .The awareness campaign would also be spread among the students to make the state clean and green under "Clean UP – Green UP".

45. (d) An electrostatic precipitator (ESP) is a filtration device that removes fine particles, like dust and smoke, from a flowing gas using the force of an induced electrostatic charge minimally impeding the flow of gases through the unit.

46. (b) No. of students who play football = 325
No. of students who don't play football = 125
No. of students who don't play Cricket = 450 – 175 = 275
N (AUB) = 125 + 275 – 50 = 250 don't play who plays football & cricket = 450 – 350 = 100

47. (c) : No. of sphere of 2 m diameter
= [(4/3) π x 4³)]/ (4/3) π x 4³] = 64/1 = 64

48. (a)
2 men can do in 4 days
4 women can do in 4 days
10children can do in 2 days
2m+4w+10c can do in
$$\frac{(4\times4)+(4\times2)+(4\times2)}{4\times4\times2}=1day$$

49. (d) : Total marks of 28 students = 28 x 50 = 1400
Total marks of 20 students = 20 x 55 = 1100
Required average = (1400 – 1100) / 8 = 300 /8 = 37.5

50. (a) Increase in working hours 40*100/100-40 =4000/60 =66 2/3 %

51. (b) : In original mixture, % of liquid B = $\frac{1}{4+1}$*100=20%
In the resultant mixture, % of liquid B = $\frac{3}{2+3}$*100 = 60%

Replacement is made by the liquid B, so the % of B in second mixture= 100%

Then by the method of allegation:
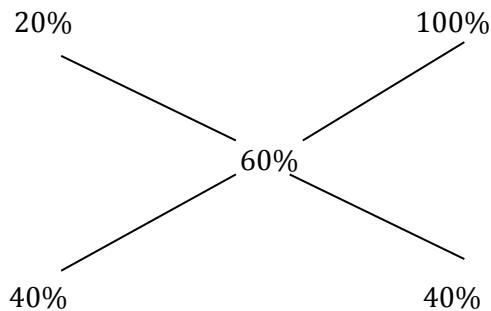
∴ Ratio in which first and second mixtures should be added is 1:1. It implies that the reduced quantity of the first mixture and the second mixture and the quantity of mixture B which is to be added are the same.

∴ Total mixture = 10+10 = 20 litres.

and liquid A =(20/5)*4 = 16 litres

52. (b) : Let the two numbers be x and y.

$3x = 1.2(2y + 105)$

$3x = 2.4y + 126$ ....(1)

$2x + 36 = 0.8(3y)$

$2x + 36 = 2.4y$ ....(2)

$x = 162$

53. (b) gain percent $= \frac{20*100}{100-20} = \frac{20*100}{80} = 25\%$

54. (d) $A:D = \frac{A}{D} = \frac{A}{B} \times \frac{B}{C} \times \frac{C}{D}$

$= \frac{3}{4} \times \frac{5}{7} \times \frac{8}{9} = \frac{10}{21}$ =10:21

55. (c) If a is length of a side of a cube, then

$6a^2 = 384$ or $a^2 = 64$ or $a = 8$ m

∴ Required Volume = $8^3 = 512$ m^3

56. (b) Let the third number be x.

∴ Second number = 3x

and first number = 6x

∴ $6x + 3x + x = 3 \times 20$

$10x = 60 \Rightarrow x = 6$

57. (a) LCM of 13, 26, 52 = 52

Now, 11/52 = 11/52

7/26 = 14/52

4/13 = 16/52

Obviously, $\frac{11}{52}, \frac{14}{52}, \frac{16}{52}$

∴ $\frac{11}{52} < \frac{7}{26} < \frac{4}{13}$

58. (c) Let the marked price of a pant be Rs. x and that of a T.shirt be Rs. 2x

Let the discount on the T.shirts be y%

Then, $x \times 40/100 + 2x \ y/100 = 3x \times 30/100$

$\Rightarrow 40x /100 + 2xy/100 = 90x/100$

$2y = 90 - 40$

$y = 50/2 = 25\%$

59. (a) L.C.M. of 5,6,7,8 =840.

Required number is of the form 840 k+ 3

least value of k for which (840 k + 3) is divisible by 9 is k =2.

Required number =(840 × 2 + 3) =1683.

60. (a) The series is as follows:

$0 \overset{+3}{\to} 3 \overset{+5}{\to} 8 \overset{+7}{\to} 15 \overset{+9}{\to} 24 \overset{+11}{\longrightarrow} 35 \overset{+13}{\longrightarrow} 48$

61. (b) $A = 10000\left(1 + \frac{2}{100}\right)^4$

$= 100000 \left(\frac{51}{50}\right)^4 = 10824.3216 – 10000 = $ Rs. 824.32

62. (a) Sum $= \frac{36 \times 100 \times 100}{6 \times 6} = 10000$

63. (d) $\frac{1\frac{1}{4} \div 1\frac{1}{2}}{\frac{1}{15} + 1 - \frac{9}{10}} = \frac{\frac{5}{4} \div \frac{3}{2}}{\frac{1}{15} + 1 - \frac{9}{10}} = \frac{\frac{5}{4} \times \frac{2}{3}}{\frac{2+30-27}{30}} = \frac{5/6}{1/6} = \frac{5}{6} \times 6 = 5$

64. (b) Mon + Tues + Wed =37*3=111

Tues + Wed + Thurs =34*3 =102 ,

Mon – Thurs = 9

Mon – 4/5 Mon = 9

Monday's temperature = 9*5=45 and

Thursday's temperature =4/5*45=36

65. (a) Cube of 12 is 1728

66. (d) Let distance be D km

D/6 –D/8 = 40/60 ⇒ D = 16km

67. (c) Time taken by walking = 8 hours 20 min

so one way journey 4 hours and 10 min

If he takes 4 hours 30 min (Riding + walking) for both ways then riding time will be =20 min

So for both ways = 40 mins

68. (d) Let the three parts of Rs, 990 be A,B,C

(½)A=(1/3)B=(1/5)C ⇒ A:B:C= 2:3:5

So, first part =(2/10)*990=198 and B = (3/10)*990=297 , C=(5/10)*990=495

69. (a) let the speed of current be y km/hr.

6 * t = 3t * (6-y) ⇒ y = 4 km/hr

70. (a) Two successive discounts of 30% and 10% is equal to 37% , So 40 % - 37 % =3

3% of 500 = Rs. 15

71. (b) Total amount spent = Rs. 46000

Amount spent on food = 23% of 46000

$= \frac{23}{100} \times 46000 = $ Rs. 10580

72. (a) Total amount spent = Rs. 46000

Amount spent clothing and housing together

= (10% + 15%) of Rs. 46000

$\frac{25}{100}$ x 46000 = Rs. 11500

73. (d) (Expenditure on Housing) / (Expenditure on Education)

= 15%/12% = 15/12

= 5 : 4

74. (a) Maximum expenditure is 23% and it is on Food.

75. (c) : Total expenditure = Rs. 46000

Amount saved = 15% of Rs. 46000

$= \frac{15}{100}$ x Rs. 46000 = Rs. 6900

76. (a) the position of R from right is 31st and from right (40 – 31-1) 10th . P is at 23rd position from right. Children between P and R = 23-10-1 = 12

77. (a)

78. (c)

79. (b) the number in fourth row is equal to the sum of the cubes of the numbers in the above rows.

80. (a) All except hear are physical activities.

81. (a) except A , all are related to scientific apparatus

82. (b) the followed series is * 6 , * 5 , * 4, * 3, *2

83. (c) the difference is increasing by 8 every time : 3 + 12 = 15 , 15 + 20 = 35 , 35 + 28 = 63 , 63 + 36 = 99

84. (a)

85. (b)+2 , +4 , +8 , +16 and so on

86. (d)

87. (c)

11, 2, 21, 3, 32, 4, 41, 5, 51, 6
+10   +10   +10   +10

88. (b)

2^3 8

3^3 =27

4^3 = 64

5^3 = 125

89. (a)

90. (b)

91. (a)

92. (a)

93. (b)

14 x 13 = 182 → 128

16 x 13= 208 →280

15 x 13= 165→156

94. (d)

95. (d)

96. (d)

97. (b)16 + 11 + 15 - 1 = 41

98. (a)

99. (b)

100.   (b)