1. The relation betgween diameter of rivet (d) and the thickness of plate (t) is:
   1. $d= 3\sqrt{t}$ 2. $d = 4\sqrt{t}$
   3. $d = 5\sqrt{t}$ 4. $d= 6\sqrt{t}$
2. The example of a dead weight governor is:
   1. Whatt governor
   2. Hart nell governor
   3. Porter Governor
   4. Pickerning governor
3. The most suitable metal for taking electro-magnets and transformer cores is:
   1. Steel 2. Iron
   3. Zero 4. Aluminium
4. The relative permeability of iron is of the order of:
   1. 1 2. 10^4
   3. Zero 4. 10^{-4}
5. Modulus of elasticity is definded a the ratio of :
   1. Shear stress to shear strain
   2. Linear stress to linear strain
   3. Linear stress to lateral strain
   4. Lateral stress to linear strain
6. The smallest planet of solar system is:
   1. Mars 2. Mercury
   3. Venus 4. Pluto
7. In a certain code SHOVE is written as VKRYH, them PISTOL will written as:
   1. SLVWRO 2. SVLWRO
   3. SVLURO 4. VLSWRO
8. A lunar eclipse happens when:
   1. Moon comes between earth and sun
   2. Sun comes between earth and moon
   3. Earth comes between earth and moon
   4. None of these
9. The currency of Italy is called:
   1. Lira 2. Euro
   3. Franc 4. Corner
10. The richter scale is used to record:
   1. Velocity of air
   2. Earthquake
   3. Intensity of earthquake
   4. Pressure
11. What is the kinetic energy of rotaion, when a body of mass moment of inertia I about a give axis is rotated about that axis with an angular velocity ω?
   1. $1.\omega$ 2. $^1/_2 I.\omega^2$
   3. $I.\omega^2$ 4. $^1/_2 I.\omega$
12. The highest score in a cricket test match in an innings was 5/21 of the total, and the next highest was 5/24 of the remainder, Difference between the scores was 254 runs. What was the total socre?
   1. 260 2. 275
   3. 300 4. 315
13. A prize money is divided between A, B and C. A receives 2/5 of the prize, B receives 1/9 of the reminder. If C's share is Rs. 80, find the value of the prize.
   1. Rs. 130 2. R. 150
   3. Rs. 180 4. Rs. 220
14. The cost of manufacturing a car, is made up of three items: cost of materials, labour and overheads, In 2002, the cost of these items was in the ratio of 5: 4: 3. In 2003, the cost of meterials rose by 16%, the cost of labour increased by 10% but the overheads reduced by 8%. What is incrfeased pe rcent in the price of car?
   1. 6% 2. 7% 3. 8% 4. 12%
15. If the rainfall on a certain day was 3.5 cm, how many liters of water fell on 1 hectare land on that day?
   1. 350000 litres 2. 35000 litres
   3. 3500 litres 4. 350 litres
16. Two equal sums were lent out at 7% and 5% simple intrest respectively. The intrest earned on the two loans add up to Rs. 960 for 4 yuears. Find the total sum lent out:
   1. Rs. 3,860 2. Rs. 4,000
   3. Rs. 4,100 4. Rs. 4,230
17. A man sells two tables at equal price. He sells one at 10% gain and other at 10% loss. What is the gain/ loss per cent in this transaction?
   1. 1.1% loss 2. 1% loss
   3. 1% gain 4. 1.1% gain

tographer allows a discount of 16% at the ed price. At what price should he mark the camera of cost Rs. 600 so that he gains 20% after allowing discount?

1. Rs. 760 2. Rs. 780
3. Rs. 1000 4. Rs. 820

19. The amount of water (in ml) that shoul be aded to reduce 9ml lotaion, contining 50% alchol to a lotion containing 30% alcohol, is:

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

20. What will come in place of quetion mark (?)?
1, 2, 5, 10, 13, 26, 29, 58, ?

1. 61 2. 63
3. 69 4. 71

21. Which of the following has the smallest wavelength?

1. Red 2. Blue
3. Green 4. Violet

22. A light year is nearest to:

1. 10^8m 2. 10^{12} m
3. 10^{16}m 4. 10^{20}m

23. A dimensionless quantity:

1. May have a unit 2. Never has a unit
3. Always has a unit 4. Doesn't exist

24. The largest producer of pulses in India is:

1. Uttar Pradesh 2. Rajashtan
3. Madhya Pradesh 4. Maharashtra

25. The minimum anjual temperature difference is found in:

1. Tiruvanantpuram 2. Mumbai
3. Panaji 4. Patna

26. 'Land of the Morning Calm refers to:

1. Japan 2. Taiwan
3. Tibet 4. Korea

27. The Russain Revolution took place in the year:

1. 1905 2. 1909
3. 1917 4. 1927

28. The Head quarters of FAO is located in:

1. New York 2. Washington
3. Rome 4. France

29. Who is the author of the book titles 'Discovery of India

1. J.L. Nehru 2. Indira Gandhi
3. M.K. Gandhi 4. C. Rajagopalachari

30. Santosh trophy is associated with:

1. Cricket 2. Foot ball
3. Hockey 4. Tennis

31. Who is the receipietn of Nobel Prize 2004 for Literature?

1. Nancy Jelinek 2. J.M. Coetzee
3. P.C. Paul 4. Elfride Jelinek

32. Year 2005 is clelebrate as 125th Brith Anniversary of which literary personality?

1. Gurudev Rabindranath Tagore
2. Munshi Premchand
3. Dr. S. Radhakrishnan
4. Sarojini Naidu

33. Pandit Jawaharlal Nehru, the first Prime Minister of India, was born in the year:

1. 1859 2. 1869
3. 1879 4. 1889

34. What is the main purpose of white blood corpuscles?

1. To carry nutrients 2. To carry oxygen
3. To combat infection 4. To help in clotting

35. Neght-blindness is caused by lock of which vitamin?

1. Vitamin D 2. Vitamin B
3. Vitramin A 4. Vitamin C

36. The ratio of specific weight of liquid to specific weight of a standasrd liquid is:

1. Specific volume 2. Weight density
3. Specific 4. Density

37. B.C.G vaccine protects against:

1. Polio 2. TB
3. Typhoid 4. Small pox

38. The largest oil producing region of Gujarat is:

1. Sanand 2. Kalol
3. Ankaleshwar 4. Kari

39. Periyar hydro-electric project is situated in:

1. Karnataka 2. Kerala
3. Tamil Nadu 4. Andhra Pradesh

40. The Brahmo Samaj wa founded in the year:

1. 1826 2. 1828
3. 1823 4. 1825

41. The Greek ambiassador Megsthanese visited India during the reign of:

1. Chandragupta Maurya 2. Samudragupta
3. Ashoka 4. Harshavardhan

42. The Tughlaq Dynasty was founded in 1320 by

1. Ghiasuddin Tughlaq
2. Mohammad Bin Tughlaq
3. Foroze Taghlaq
4. None of these

43. Who was the Viceroy when Jalianwalabagh tragedy took place on April 13, 1919 ?

1. Lord Reading 2. Lod Irwin
3. Lord Chelmsford 4. Lord Minto

44. Which of the following is an example of chemieal reaction:

1. Magnetising an iron bar
2. Burning of a candle
3. Melting of ice
4. None of these

is Cup is related to:

awn Tennis 2. Cricket
3. Golf 4. Hockey

46. **Enron electric project is situated in state of:**
1. Maharashtra 2. Kerala
3. Assam 4. Bihar

47. **Mahatma Gandhi started Dandi March to break salt law on:**
1. April 6, 1930 2. March 12, 1930
3. March 12, 1931 4. April 6, 1931

48. **The Constituent Assembly adopted the Indian Constitution on:**
1. January 26, 1950 2. August 15, 1947
3. January 30, 1950 4. November 26, 1949

49. **Radha Reddy and Raja Reddy are the propounders of which classical dance ?**
1. Kuchipudi 2. Odissi
3. Kathak 4. Kathakali

50. **Home Rule League Movement was started by:**
1. Bal Gangadhar Tilak
2. Raja Ram Mohan Roy
3. Gopal Krishna Gokhale
4. None of these

51. **Voltmeter is used to measure:**
1. Power 2. Displacement
3. Current 4. Potential difference

52. **Which of the following is the most industrialised state ?**
1. West Bengal 2. Bihar
3. Maharashtra 4. Rajasthan

53. **Which of the following is a vector ?**
1. Power 2. Displacement
3. Work 4. Potential

54. **In which state the folk dance 'Ghoomar' is performed ?**
1. Gujarat 2. Rajasthan
3. Orissa 4. Nagaland

55. **The electoral college to elect President consist of the elected members of:**
1. Lok Sabha
2. Lok Sabha and Rajya Sabha
3. Lok Sabha, Rajya Sabha and Legislative Assemblies
4. Rajya Sabha

56. **Tipu Sultan was killed in:**
1. 1799 2. 1798 3. 1797 4. 1796

57. **Isobars are produced as a result of the emission of:**
1. alpha particles 2. beta particles
3. gamma-rays 4. X–rays

58. **The least energy is radiated by:**
1. X–rays 2. gamma-rays
3. eletric waves 4. alpha-rays

59. **A charged capacitor processes —— energy.**
1. kinetic 2. potential
3. electrostatic 4. magnetic

60. **Which of the following is the source of soalr energy ?**
1. Magnetic radiation 2. Burning hydrogen
3. Chemical energy 4. Nuclear fission/fusion

61. **Woollen clothes keep us warm in winter because:**
1. they give heat to body
2. they protect the heat of body from escaping
3. they protect the cold from entering the body
4. None of these

62. **The Hygrometer is an instrument used to measure:**
1. rainfall 2. altitude
3. relative humidity 4. temperature

63. **Which is the source of copper ?**
1. Aragonite 2. Cassiterite
3. Cerussite 4. Calamine

64. **An alloy of copper and tin is called:**
1. Bronze 2. Brass
3. Gunmetal 4. Y–alloy

65. **What is the chemical name of Bleaching Powder?**
1. Copper sulphate 2. Sodium hydroxide
3. Potassium hydroxide 4. Calcium hydrochlorite

66. **Highest percentage of carbon is available in:**
1. mild steel 2. high carbon steel
3. cast iron 4. stainless stell

67. **Radio carbon dating is associated with which of the following ?**
1. Soils 2. Fossils
3. Rocks 4. Buildings

68. **Bauschinger effect is associated with which of the following ?**
1. Hardness 2. Fatigue
3. Creep 4. None of these

69. **To check the growth of alage in water reservoirs which of the following chemicals is used ?**
1. Brine 2. Alum
3. Copper sulphate 4. Bleaching powder

70. **At very high pressure a real gas, as compared to an ideal gas, occupies :**
1. same volume 2. less volume
3. more volume 4. Any of these

71. **Capacity of a dry cell is :**
1. more when it is supplying current for intermittent periods
2. more when it is supplying current for continuous periods
3. unaffected by the type of discharge
4. None of these

e same maximum pressure and heat ...he most efficient cycle is :
1. Otto cycle
2. Diesel cycel
3. Brayton cycle
4. Dual combustion cycle

73. The property by which an amount of energy is absorbed by a material without plastic deformation is called :
1. toughness
2. impact strength
3. ductility
4. resilience

74. A carnot engine receiving heat at 400 K has an efficiency of 25%. The C.O.P. of a carnot refrigerator working between the same temperature limit is:
1. 1 2. 2 3. 3 4. 4

75. Second law of thermodynamics defines :
1. heat
2. work
3. enthalpy
4. entropy

76. Why are oil rings slotted ?
1. To provide an escape for the oil that the slot edges cut from the cylinder wall
2. To minimize friction
3. To remove oil from cylinder
4. To reduce the bulk

77. Maximum torque is generated by an engine when :
1. it runs at lowest speed
2. it develops maximum power
3. it consumes maximum fuel
4. it runs at maximum speed

78. In a boiler maximum energy loss occurs due to:
1. radiant losses
2. flue gases
3. incomplete combustion
4. unburnt carbon in ash

79. The ratio of indicated power to shaft power is known as —— efficiency.
1. adiabatic
2. mechanical
3. isothermal
4. volumetric

80. The performance of reciprocating compressor is compared on the basis of —— efficiency.
1. volumetric
2. mechanical
3. overall
4. isothermal

81. Which of the following features improves the fatigue strength of a metallic material ?
1. increasing the temperature
2. Scratching the surface
3. Overstressing
4. Under-stressing

82. Which of the following statement is correct ?
1. Energy and work are scalars
2. Energy, momentum and velocity are vectors
3. Force, momentum and velocity are scalars
4. Force and work are vectors

83. Throttling process is:
1. reversible
2. irreversible
3. theoretical
4. None of these

84. Natural frequency is independent of:
1. amplitude of oscillation
2. mass of the system
3. stiffness of the system
4. All of these

85. Regenerative cycle efficiency:
1. is same as simple Rankine cycle thermal efficiency
2. is always less than simple Rankine cycle thermal efficiency
3. is always greater than simple Rankine cycle thermal efficiency
4. None of these

86. Which of the following modes of heat transfer would take place predominantly, from boiler furnace to water wall ?
1. Convection
2. Conduction
3. Radiation
4. Conduction and Convection

87. As warm air cools, its relative humidity:
1. decreases
2. increases
3. remains unchanged
4. unpredictable

88. The property of a fluid which determines its resistance to shearing stresses is called:
1. viscosity
2. surface tension
3. compressibility
4. None of these

89. The unit of stress in S.I. unit is:
1. N/m^2
2. kN/mm^2
3. N/mm^2
4. All of these

90. In an automobile, the power is transmitted from the gear box to the differential through:
1. Knuckle joint
2. Bevel gears
3. Hooke's joint
4. Oldham's coupling

91. For fatigue loading factor of safety is the ratio of:
1. endurance limit to the working stress
2. elastic limit to the working stress
3. elastic limit to the yielding point
4. Young's modulus to the ultimate tensile strength

92. Bending moment on a section is maximum when shear force is:
1. zero
2. maximum
3. minimum
4. changing sign

93. Fuel used for blast furnace is:
1. coal
2. coke
3. wood
4. producer gas

94. **The included angle between V-belt is usually between**

1. 10° – 20°
2. 30° – 40°
3. 60° – 80°
4. 20° – 30°

95. **In screw jack, effort required to lift a load is given by:**

1. P = w tan (α + ϕ)
2. P = w tan (α – ϕ)
3. P = w tan (ϕ – α)
4. None of these

96. **The separation between two points in space is called:**

1. Volume
2. Width
3. Area
4. Length

97. **Electrodes used in spot welding have a tip of:**

1. Aluminium
2. Brass
3. Carbon
4. Copper

98. **Damping current can be produced by:**

1. Eddy currents
2. Resistance
3. Potential
4. Magnetic

99. **If 6 × 6 = 33, 8 × 2 = 41 and 4 × 5 = 22.5 then 8 × 6 = ?**

1. 24
2. 43
3. 38
4. 2.66

100. **What will come in place of question mark (?) in the following question?**

1. 10
2. 11
3. 12
4. 13

ANSWERS

1.4	2.3	3.2	4.2	5.2	6.4	7.1	8.3	9.2	10.3	11.2	12.4	13.2	14.3	15.3	16.2
17.2	18.3	19.4	20.1	21.4	22.3	23.1	24.3	25.1	26.4	27.3	28.3	29.1	30.2	31.4	32.2
33.4	34.3	35.3	36.3	37.2	38.3	39.2	40.2	41.1	42.1	43.3	44.2	45.1	46.1	47.1	48.4
49.1	50.1	51.4	52.3	53.2	54.2	55.3	56.1	57.2	58.1	59.3	60.4	61.2	62.3	63.2	64.1
65.4	66.3	67.2	68.1	69.4	70.2	71.1	72.4	73.4	74.4	75.4	76.1	77.1	78.1	79.2	80.1
81.4	82.1	83.2	84.1	85.2	86.4	87.1	88.3	89.1	90.1	91.2	92.4	93.2	94.2	95.1	96.3
97.4	98.1	99.2	100.2												

★★★★★