1. When coal is destructively distilled, the resultant mass becomes soft, plastic and fuses to give a coherent mass. It is known as
   (A) Cake  (B) Coke  (C) Lubricants  (D) Grease

2. Water gas is prepared by passing steam over red hot?
   (A) Fe  (B) Cu  (C) Al  (D) C

3. During wet corrosion
   (A) Anodic part undergoes reduction  (B) Anodic part undergoes oxidation
   (C) Cathodic part undergoes reduction  (D) Anodic part as well as cathodic parts undergo oxidation

4. Composition of stainless steel is
   (A) Fe (5 – 39%) + Cr (11 – 25%) + Ni (50 – 70%)
   (B) Fe (70%) + Cr (20%) + Ni (10%)  (C) Fe (24 – 26%) + Cr (14 – 16%) + Co (60%)
   (D) Fe (53.5%) + Co (12.5%) + Ni (18%) + Al (10%) + Cu (6%)

5. Tungsten steel is used for making
   (A) Hydraulic machinery  (B) Springs  (C) High speed tools  (D) Gears

6. Which one of the following is formed from ring opening polymerization?
   (A) Nylon-6  (B) Nylon-6, 6  (C) Nylon-6, 10  (D) Dacron

7. Polymer used in bullet proof glass is
   (A) PMMA  (B) Lexan  (C) Nomex  (D) Kevlar

8. A hybrid propellant uses
   (A) A solid fuel and liquid oxidizer  (B) A composite solid propellant
   (C) A biliquid propellant  (D) A monoliquid propellant

9. Plaster of Paris is
   (A) CaSO₄·2H₂O  (B) CaCO₃·H₂O  (C) CaSO₄·1/2H₂O  (D) CaSO₄

10. Permanent hardness in water may be due to
    (A) Sodium chloride  (B) Magnesium sulphate
    (C) Calcium bicarbonate  (D) Magnesium bicarbonate

11. Melamine (2, 4, 6- triamino- 1, 3, 5- triazine) is an industrial chemical used mainly in the production of
    (A) Plastics  (B) Papers  (C) Glasses  (D) Grease

12. For same maximum pressure, maximum temperature and heat rejection, the efficiency of Otto, Diesel, and Dual cycle may be compared as
    (A) ηotto > η dual > η diesel  (B) ηotto = η dual > η diesel
    (C) η diesel > η dual > ηotto  (D) η dual > η diesel > ηotto

13. The mineral acidity is caused by
    (A) hydrolysis of bivalent metal ions  (B) dissolved salts
    (C) dissolution of minerals  (D) adding mineral acids

14. LISP is a
    (A) Procedural language  (B) Logic programming language
    (C) Imperative language  (D) Functional language

15. In File Transfer Protocol (FTP) service, downloading is the process of
    (A) Moving a file from a remote computer to one’s own computer
    (B) Moving a file from one’s own computer to a remote computer
    (C) Moving a file from a remote computer to the World Wide Web
    (D) Moving a file from the World Wide Web to a remote computer

16. Minute cracks in metals and minute faults in welded joints can be detected using
    (A) IR rays  (B) UV rays  (C) alpha rays  (D) X-ray/γ-rays

17. Fleming’s left hand Rule is used for determination of direction of
    (A) Induced current produced in a conductor moving in a magnetic field.
    (B) Force acting on a current carrying conductor kept in a magnetic field
    (C) Induced e.m.f produced in a coil due to charge in electric field lines associated with it.
    (D) Eddy currents produced in a metallic block due to charge in magnetic field associated with it.

18. The sensitivity of a potentiometer can be increased by
    (A) Decreasing the length of the wire.
    (B) Increasing the current in the main circuit
    (C) Decreasing the current in the main circuit
    (D) Decreasing the thickness of potentiometer wire.

19. The concept of hybridization helped in explaining the structure/shape of molecule, which of the following molecule has sp³ hybridization?
    (A) SF₆  (B) PF₃  (C) NH₃  (D) C₂H₄

20. Examine the following statements related to metallic crystal and identify the incorrect one.
    (A) Most of the metals crystallize in ccp (cubic close packed), hcp (hexagonal close packed) or bcc (body centred cubic) structures.
    (B) Efficiency of packing of atoms is equal in hcp and ccp structures and is equal to 74%
    (C) Efficiency of packing in bcc structure is lower than ccp and hcp structures and is only 68%.
21. Which is an odd group with regard to the medium from which they take oxygen for breathing?
(A) Humans and land plants
(B) Fish and aquatic plants
(C) Fish and whales
(D) Human and whales

22. National animal of India is
(A) Lion  (B) Tiger  (C) Monkey  (D) Deer

23. If \( a = 3^3 \times 5^3 \times 7^0, b = 3^5 \times 5^4 \times 7^1, c = 3^6 \times 5^4 \times 7^4 \) and \( d = 3^3 \times 5^4 \times 7^1 \) then HCF of \( a, b, c \) and \( d \) is
(A) 27 \( \times \) 35 \( \times \) 35 \( \times \) 15
(B) 27 \( \times \) 35 \( \times \) 35 \( \times \) 15
(C) 3 \( \times \) 5 \( \times \) 3 \( \times \) 5
(D) 7 \( \times \) 7 \( \times \) 5

24. The tax on a commodity is reduced by 10% and there by consumption increases by 8%. The increase or decrease in the revenue from it is
(A) \( 2\frac{4}{5} \) % decrease
(B) \( 2\frac{4}{5} \) % increase
(C) \( 6\frac{4}{5} \) % decrease
(D) \( 6\frac{4}{5} \) % increase

25. A sum of Rs. 16000 invested at 10% per annum compounded semi annually amounts to Rs. 18522. The time period of investment is
(A) 1 \( \frac{1}{2} \) years
(B) 2 years
(C) 2 \( \frac{1}{2} \) years
(D) 3 years

26. A shopkeeper sells an article at a loss of 12.5%. Had he sold it for Rs 51.80 more, he would have earned a profit of 6%. The cost price (in Rs) of the article is
(A) Rs 240
(B) Rs 280
(C) Rs 259
(D) Rs 300

27. The first term of an infinite geometric series exceeds the second term by 2 and the sum of the series is 50, then the third term of the series is
(A) 8
(B) \( 6\frac{2}{5} \)
(C) \( 5\frac{3}{25} \)
(D) \( -14\frac{2}{5} \)

28. He demolished the austere sandstone structures of Akbar in the Red Fort and replaced them with marble buildings such as the Diwan-I-Am (hall of public audience), the Diwan-i-Khas (hall of private audience), and the Moti Masjid (Pearl Mosque)
(A) Aurangzeb
(B) Akbar
(C) Jehangir
(D) Shahjehan

29. What method has been identified to resolve movement of coal for power production, movement of goods for infrastructure, and trade needs in India?
(A) Making new factories closer to the mines.
(B) Building of new ports in Private sector
(C) Investing in new Freight trains for goods
(D) Dedicated Freight corridor for railways

30. What is the per capita energy consumption level in India today?
(A) 500 kWh
(B) 2942 kWh

31. Which is the most malleable metal?
(A) Iron
(B) Gold
(C) Copper
(D) Silver

32. What is pollination?
(A) Creating of a new species
(B) Formation of seeds in the ovule
(C) Transfer of pollen from anther to stigma
(D) Insects moving pollen from one flower

33. Which one is the world's largest employer?
(A) Mac Donald's
(B) Indian Railways
(C) Chinese Army
(D) British railways

34. P is the sister of the son of Q's son. How is P related to Q?
(A) Grandfather
(B) Grandson
(C) Grandmother
(D) Granddaughter

35. Two brothers divide the 140 marbles that they have between them such that the younger has 150% of the elder. How many does the younger have more than the elder?
(A) 20
(B) 28
(C) 24
(D) 14

36. The calorific value of lignite is
(A) 545 - 1500 k cal/kg
(B) 6500-7100 k cal/kg
(C) 2020 - 3000 k cal/kg
(D) 8650 k cal/kg

37. Kerosene does not dissolve in water, because
(A) Kerosene is a mixture of hydrocarbons
(B) Kerosene is a liquid
(C) Water has a high dielectric constant
(D) Kerosene has low density than water

38. Liquefied petroleum gas contains ................ as a major constituent
(A) Methane
(B) Acetylene
(C) Butane
(D) Octane

39. Purest form of coal is
(A) Lignite
(B) Anthracite
(C) Bituminous
(D) Peat

40. Petroleum ether contains alkanes in the range
(A) C_{10} - C_{16}
(B) C_{5} - C_{7}
(C) C_{15} - C_{18}
(D) C_{1} - C_{4}

41. Water gas is essentially
(A) A mixture of CO and H_2O
(B) A mixture of CO and H_2
(C) A mixture of CO_2 and H_2O
(D) A mixture of CO and H_2

42. A process of transformation of vegetable matter into anthracite is called
(A) Crackling
(B) Metamorphism
(C) Metabolism
(D) Photosynthesis

43. White spirit is nothing but
(A) Petroleum ethers
(B) Naphtha
(C) Gasoline
(D) Asphalt

44. Coal gas is the mixture of
(A) CH_4 and CO_2
(B) CH_4 and H_2
(C) CO and H_2
(D) CO and N_2

45. Atomic packing factor is
(A) Distance between two adjacent atoms
(B) Projected area fraction of atoms on a plane
(C) Volume fraction of atoms in a cell
(D) Net distance of two atoms

46. Corrosion is due to
(A) Oxidation
(B) Reduction
47. The carbon percentage in mild steel is
(A) 0.15 – 0.3
(B) 0.3 – 0.8
(C) 0.8 – 1.5
(D) Greater than 1%

48. Bronze is an alloy of
(A) Copper and Nickel
(B) Copper and Iron
(C) Copper and Tin.
(D) Copper and Aluminium

49. The common metal present in bronze, brass and German silver alloys is
(A) Zn
(B) Mg
(C) Cu
(D) Al

50. Gun metal is an alloy of
(A) Cu and Sn
(B) Cu, Zn and Ni
(C) Cu, Zn and Sn
(D) Cu and Al

51. Composition of glass is
(A) Silica, sodium and NaCl
(B) Silica, sodium and Na₂CO₃
(C) Silica and Na₂CO₃
(D) lime and Na₂CO₃

52. Optical glass contains high percentage of
(A) MgO
(B) Al₂O₃
(C) B₂O₃
(D) PbO

53. Which crystalline form of carbon has a two-dimensional sheet like structure
(A) Coal
(B) Coke
(C) Graphite
(D) Diamond

54. The different layers in graphite are held together by
(A) Ionic bonding
(B) Covalent bonding
(C) Van der Waals forces
(D) Metallic bonding

55. The inorganic content present in enamel is
(A) 4% (B) 5% (C) 96% (D) 10%

56. Neoprene rubber is used as
(A) Plastic for dining tables
(B) Plastic for car panels
(C) Materials for electrical switches
(D) Rubber in driving suits

57. In vulcanization of rubber,
(A) Sulfur reacts to form a new compound
(B) Sulfur cross-links are introduced
(C) Sulfur produce a thin protective layer on rubber
(D) Sulfur makes the rubber as soft

58. Which of the following is a copolymer
(A) Buna-S
(B) Pan
(C) Glyptal
(D) Dacron

59. Nylon is classified as a
(A) Polyester
(B) Polyamid
(C) Polyether
(D) Polyolefin

60. Which one of the following is used to make non-stick cook ware?
(A) PVC
(B) polytetrafluoroethylene
(C) Polyester
(D) Polyethylene terephthalate

61. A good explosive should possess
(A) Slow decomposition rate
(B) High energy of dissociation
(C) Negative oxygen balance
(D) Positive oxygen balance

62. Smokeless powder is
(A) High explosive
(B) Low explosive
(C) Initiating explosive
(D) Primary explosive

63. Major component of Portland cement is
(A) Tricalcium silicates
(B) Calcium oxide
(C) Calcium sulphate
(D) Magnesium oxide

64. Lubricant used in machines working at low temperature should possess
(A) High pour-point
(B) Low flash-point
(C) High cloud-point
(D) Low pour-point

65. Alum is used for
(A) Filtration
(B) Coagulation
(C) Softening
(D) Disinfection

66. The composition of superphosphate of lime is
(A) Ca₃(H₂PO₄)₂ + Na₃PO₄
(B) Ca₃(H₂PO₄)₂·H₂O + CaSO₄·2H₂O
(C) Ca₃(PO₄)₂ + CaSO₄·2H₂O
(D) Ca₃(PO₄)₂·2H₂O

67. The reaction of phosphate rock with sulfuric acid gives
(A) Calcium phosphate
(B) Calcium sulfate
(C) Copper sulphate
(D) Copper phosphate

68. CCl₄ does not have net dipole moment because of
(A) its planar structure
(B) Its irregular tetrahedral structure
(C) Similar size carbon and chlorine atoms
(D) Similar electronegativity of carbon and chlorine

69. The energy of an isolated system is always
(A) Zero
(B) Constant
(C) Increasing
(D) Decreasing

70. A machine which would continuously supply mechanical work without some other form of energy disappearing is called
(A) Heat Engine
(B) PMM-I
(C) PMM-II
(D) PMM-III

71. Low value of Nusselt number indicates
(A) Large conduction heat flux in the fluid as compared to convection heat flux
(B) Large convection heat flux in the fluid as compared to conduction heat flux
(C) Conduction and convection heat flux is almost same
(D) Nusselt number is not related to convection and conduction heat flux

72. The ratio of momentum diffusivity to thermal diffusivity is defined as
(A) Rayleigh number
(B) Peclet number
(C) Stanton number
(D) Prandtl number

73. Which of the processes of the ideal vapour compression refrigeration cycle is irreversible?
(A) Compression
(B) Heat transfer in condenser
(C) Throttling
(D) Heat transfer in evaporator

74. A cyclic device that maintains the region at higher temperature than that of its surrounding is called
(A) Refrigerator
(B) Heat pump
(C) Evaporator
(D) Condenser

75. The process of initial invasion followed by progression from one biotic community to the next is termed as
(A) ecological succession
(B) natural succession
(C) secondary succession
(D) primary succession

76. The common symptoms of water borne disease caused by protozoa is
(A) shigellosis
(B) leptospirosis
(C) gastrointestinal disorder
(D) infectious hepatitis
77. The continuous exposure of high concentration of carbon monoxide may cause
(A) eye irritation (B) kidney damage (C) failure of respiratory system (D) death
78. The noise of aircraft is described in terms of Perceived Noise Levels (PNL), which is approximately
(A) 13 units greater than the dB (A) value for the noise
(B) 10 units greater than the dB (A) value for the noise
(C) 3 units greater than the dB (A) value for the noise
(D) 6 units greater than the dB (A) value for the noise
79. The environment friendly substitute of CFCs are
(A) trichloro-propane and freon
(B) dichloromethane and freon
(C) difluoromethane and freon
(D) chloro-fluoromethane and Freon
80. Instruction Register is an integral component of
(A) CPU (B) I/O Controller (C) RAM (D) Data Bus
81. Number of bits needed to select one address out of 4K addresses in memory is
(A) 8 (B) 10 (C) 12 (D) 16
82. The versions of UNIX implemented by IBM on their workstations is called
(A) ULTRIX (B) AIX (C) SOLARIS (D) HP-UX
83. Which of the following is not a random access memory?
(A) ROM (B) RAM (C) Flash memory (D) Magnetic Tape
84. In Boolean Algebra, A'B + A'B' is equivalent to
(A) A (B) B (C) A' (D) B'
85. Which of the following is not a Web browser?
(A) Safari (B) Hadoop (C) MacWeb (D) Internet Explorer
86. In portable instruments, damping is provided by
(A) spring (B) gravity (C) eddy current (D) portable weight
87. A permanent magnet moving coil measures
(A) true rms value (B) devalue (C) peak value (D) rms plus devalue
88. The difference between measured value and true value is called
(A) gross error (B) relative error (C) probable error (D) absolute error
89. Kepler's second law of planetary motion is based on
(A) Conservation of linear momentum (B) Conservation of angular momentum (C) Newton's second law of motion (D) Newton's first law of motion
90. Which one of the following is NOT the Characteristics of Nuclear forces?
(A) Charge independent (B) Strongest in nature (C) Short range forces (D) Obey inverse square law
91. The Phenomenon of polarisation of light proves
(A) Rectilinear propagation of light (B) Longitudinal wave nature of light (C) transverse wave nature of light (D) corpuscular nature of light
92. Size of a cation is less than the size of the corresponding atom and size of an anion is more than the size of the corresponding atom. For the following iso-electronic species, Na⁺, Mg²⁺, F⁻ and O²⁻, the correct order of increasing length of their radii will be
(A) O²⁻ < F⁻ < Na⁺ < Mg²⁺ (B) O²⁻ < F⁻ < Mg²⁺ < O²⁻ (C) Mg²⁺ < Na⁺ < F⁻ < O²⁻ (D) F⁻ < O²⁻ < Mg²⁺ < Na⁺
93. Oxidation state of nitrogen in the species : NH₃, HN₃, N₂H₄, NO₂ and NH₂OH are respectively
(A) -3, 3, -2, +3 and -1 (B) -1, 3, -2, +3 and -1 (C) -1, 3, +2, -3 and +1 (D) -3, -1, 2, -3 and -1
94. Which one of the following cannot reduce Fehling's solution?
(A) Formic acid (B) Formaldehyde (C) Acetic acid (D) Acetaldehyde
95. What does the diagram drawn below depict?

96. The kidney tubules
(A) only filter out the excretory products from blood
(B) only let capillaries surrounding them selectively reabsorb substances
(C) secrete a hormone for the removal of excess water from the body
(D) filtration and selective reabsorption
97. Identify the wrong reason. Plants are living because they
(A) breathe (B) respond to stimuli (C) reproduce (D) get fixed on soil
98. A teacher took her students to a pond and explained that its components were its physical features and living beings living in it, so pond is
(A) an ecosystem (B) a community (C) a biome (D) the biosphere
99. Let x be the greatest number that divides 463, 1028 and 1819 leaving the same remainder in each case. The sum of digits of x is
(A) 3 (B) 4 (C) 5 (D) 3
100. If B= \( \frac{2}{5} \), A, C = 5/8B and D = 2/13 of (B and C) then A : D is equal to
(A) 8:5 (B) 4:1 (C) 5:2 (D) 10:1
101. A sum of Rs 5580 is divided among three persons L, M and N, so that if their shares are diminishing by Rs 40, Rs 50 and Rs 80 respectively, then, the ratio of their shares becomes 2 : 3 : 7. The share of M
(A) Rs 940 (B) Rs 1410 (C) Rs 1430 (D) Rs 3230
102. Two vessels have acid and water in the ratio 2:1 and 3:4, respectively. Both vessels are of the same size and are full of their respective mixtures. The contents of these vessels are emptied into another vessel. The ratio of acid to water in this vessel will be (A) 29:23 (B) 23:19 (C) 3:2 (D) 1:1

103. The wheel of a vehicle, 17.6 decimeter in circumference, makes 58 revolutions in 5 seconds. The speed of the vehicle [in km/hour] is nearly (A) 68 (B) 74 (C) 56 (D) 72

104. A and B started on bicycles from a place in the same direction at the speeds of 4 km/hour and 9 km/hour. If A started at 9 a.m. and B at 11.30 a.m. on the same day, when did B overtake A? (A) 13:30 a.m. (B) 1:00 p.m. (C) 1:30 p.m. (D) 2:00 p.m.

105. If 9 men and 4 women can do a piece of work in 9 days, and 12 men and 6 women can do the same work in \( \frac{6}{11} \) days, how long will 6 men and 8 women take to do it? (A) 6 days (B) 8 days (C) 9 days (D) 12 days

106. The average of seven consecutive odd positive integers is 37. The average of the first and last of these integers is (A) 39 (B) 38 (C) 37 (D) 36

107. Average age of the students of a class is 15.6 years, if the average of boys is 15.9 years and that of girls is 15.2 years, then the ratio of boys to girls is (A) 3:4 (B) 4:3 (C) 3:2 (D) 2:3

108. If the ratio of the sum of first n terms of two arithmetic progressions is \( \frac{12 - n}{3 + n} \) then the ratio of their 4th terms is (A) 1:2 (B) 2:1 (C) 7:5 (D) 5:7

109. One of the factors of \( (x+1)(x+2)(x+3)(x+4) - 3 \) is (A) \( x^2 + 5x + 3 \) (B) \( x^2 - 5x + 3 \) (C) \( x^2 + 5x - 7 \) (D) \( x^2 + 5x + 7 \)

110. The expression \( x^3 - 4x^2 - 11x - 6 \) (A) \( (x + 1)(x - 2)(x + 3) \) (B) \( (x + 1)(x + 1)(x - 6) \) (C) \( (x + 1)(x + 2)(x - 3) \) (D) \( (x + 1)(x - 1)(x + 6) \)

111. If one of the roots of the equation \( k(x - 1)^2 = 5x - 7 \) is double the other, then the sum of possible values of k is (A) -25 (B) -23 (C) 25 (D) 23

112. If the roots of the equation \( (p + 6)x^2 + (p + 6)x + 2 = 0 \) are real and equal, then the product of the possible values of p is (A) -6 (B) 9 (C) -12 (D) 12

113. A ladder is placed against a wall such that it first touches the top of the wall. If the foot of the ladder is 7 m away from wall and the ladder is inclined at an angle of 60° with the ground, then the difference \( (\text{in m}) \) of the length of the ladder and height of the wall is approximately (A) 0.87 (B) 1.57 (C) 1.88 (D) 2.18

114. Which dynasty controlled most of peninsular India between 8-10 century AD? (A) Chola (B) Chera (C) Chalukya (D) Pallava

115. What is significant about the name of the months between September and December? (A) All have 31 days (B) These are winter (C) All are numbers (D) All are names of gods.

116. What is the reason for the slowing down of overall population growth in 2011 census? (A) Migration rate to overseas areas (B) No change in urban population growth (C) Decline in rural population growth (D) Increase in death rate due to insurgency

117. If a Department of Education does not inspect a school and ensure that it complies with the standards for a school, parents can file which kind of writ? (A) Haebus Corpus (B) Mandamus (C) Certiorari (D) Prohibition

118. What has led to the increase in the metals mining in India in the last 10 years? (A) Higher demand for iron ore in the world (B) Opening of mines and expansion of mining. (C) Better equipment and mining technology (D) Allocation of mines to new companies.

119. Why does a spoon appear to bend in a beaker of water? (A) Refraction (B) Reflection (C) Convection (D) Radiation

120. What is the direction in which sound waves move in air? (A) Parallel (B) Upwards (C) Longitudinal (D) Downwards

121. Which has the maximum amount of aluminium silicate? (A) Clay (B) Lime wash (C) Putty (D) Groat

122. Which gas is used for preparing aerated water? (A) Oxygen (B) Nitrogen (C) Carbon dioxide (D) Hydrogen

123. Which part of the human body does not have any significant role to play? (A) Pancreas (B) Duodenum (C) Colon (D) Appendix

124. What is the effect of excessive transpiration in plants? (A) Wilting (B) Fast growth (C) Large leaves (D) Yellow leaves

125. Which game is the Sudirman Cup related to? (A) Cricket (B) Hockey (C) Tennis (D) Badminton

126. What is ‘Vellithumpa’? (A) A medicinal plant used to cure cancer (B) A new plant species found in the Western ghat (C) Snake species found in the Western ghat (D) Special indigenous species of frog.

127. Which world economic group has launched the New Development Bank in 2015 (A) BRICS nations (B) SAARC nations (C) ASEAN nations (D) OPEC nations

128. 9 : 80 = ______ : 624 (A) 25 (B) 24 (C) 72 (D) 21

129. Affluent : Wealthy = ______ : Angry (A) Indigenous (B) Ingenious (C) Indignant (D) Indigent

130. Which of the five pairs is different from the other four? 4 – 64, 9 – 729, 7 – 343, 5 – 125, 8 – 256 (A) 8 – 256 (B) 4 – 64 (C) 9 – 729 (D) 5 – 125
131. Which of the five groups is different from the other four? TRPM, SQOM, HFDB, GECA
   (A) GECA (B) HFDB (C) TRPM (D) SQOM

132. Each letter of the alphabet is coded as its rank in the alphabet if the letters are from K to Z. The codes of the letters from A to J are 31 to 40. WBIDC would then be coded as:
   (A) 2332493 (B) 2332343833 (C) 2332340933 (D) 2332343933

133. A boat is cruising against the current in a river flowing from east to west. A boy walking on its deck from its left to right. His sister is walking from the front end of the boat to the rear. In which direction are the boy and the girl walking?
   (A) South and West (B) West and South (C) North and East (D) East and North

134. Which of the following is not a valid cell address in MS-Excel?
   (A) BB5 (B) B5 (C) 5AA (D) A55

135. The decimal equivalent of the binary number (10101.101) is
   (A) 21.625 (B) 12.625 (C) 21.25 (D) 12.25

136. In a CRO, the time base signal is applied to
   (A) X plates (B) Y plates (C) either X or Y plates (D) alternately X and Y plates

137. A parallel plate capacitor is charged to some potential by using a battery. After sometime, the battery is disconnected and the distance between the plates is doubled. Which one of the following is correct under such a situation?
   (A) The charge on the plates increases (B) The potential difference between the plates decreases (C) The capacitance of the capacitor increases (D) The electrostatic energy stored in the capacitor increases.

138. A salt is soluble in water, if its
   (A) Hydration energy is less than its lattice energy (B) Hydration energy is more than its lattice energy (C) Hydration energy is equal to its lattice energy (D) The solubility of a salt does not depend on the relation between its hydration energy and lattice energy.

139. A mixture of 80 litres of spirit and water contain 20% water. How much water (in liters) must be added to it to increase the percentage of water to 25%?
   (A) $\frac{1}{3}$ (B) 5 (C) 4 (D) 4 $\frac{4}{19}$

140. A loan of Rs 40800 is to be paid back in two equal annual installments. If the interest charged is 12.5% per annum, compounded annually, the value of each installment will be
   (A) Rs 20400 (B) Rs 22800 (C) Rs 24100 (D) Rs 24300

141. A trader allows a discount of $12\frac{1}{2}$% on an article on its marked price and gains 12% on it. What is the marked price of the article if its cost price is Rs 625?
   (A) Rs 780 (B) Rs 800 (C) Rs 840 (D) Rs 860

142. A and B can do a piece of work in 30 days and 40 days, respectively. Both begin together but A leaves off after some time. B alone finishes the remaining work in 5 days. After how many days did A leave?
   (A) 15 (B) 12 (C) 10 (D) 9

143. The value of $\tan 2^{\circ} \tan 3^{\circ} \tan 45^{\circ} \tan 87^{\circ} \tan 88^{\circ}/(\sin^{2}39^{\circ}+\cos^{2}51^{\circ})+(\sin^{2}51^{\circ}+\cos^{2}39^{\circ})$
   is
   (A) 0 (B) 1 (C) $\frac{1}{2}$ (D) $\frac{1}{4}$

144. Who founded the Bahiskrit Hitkarni sabha in 1925?
   (A) Jyotiba Phule (B) Babasaheb Ambedkar (C) Narayan Guru (D) C.V.R. Periyar

145. Which is the most important Money bill that is passed in parliament?
   (A) Budget for the nation (B) Special grant to states (C) Emergency expenses (D) Pay commission rules

146. India has started with the production of which exotic food products?
   (A) Durum Wheat and Canola (B) Sunflower and Chillies (C) Quinoa and Olives (D) Rice and Sweet Corn

147. Which of the following instruments is used for determining the purity of milk?
   (A) Barometer (B) Lactometer (C) Thermometer (D) Hygrometre

148. What is considered a leg before wicket?
   (A) Ball is outside the off stump (B) Ball hits the bat and then the pad of the batsman (C) Ball is pitched on the stump and hits the pad (D) Batsman offers no stroke

149. If TERMINUS is coded as EIJUSNMRT, how will READS be coded as?
   (A) AESDR (B) EASDR (C) EAARDS (D) ARDSDE

150. What number should come in the fourth square?

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   6  8  5  1
   4  9  3  9
   4  8  6  2
   3  6  8  5
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   (A) 180 (B) 125 (C) 60 (D) 120