KERALA NTSE STAGE 1 2017-18
SAT

1. Identity the wrongly matched pairs

(A) Monocyte	-	Actively phagocytic
(B) Thrombolytic	-	Produces antibodies
(C) Lymphocyte	-	initiates blood clotting
(D) Eosin Phil	-	Associated with allergy

(A) (A) and (B)   (B) (B) and (C)   (C) (A) and (D)   (D) (C) and (D)

2. The bacteria used for scavenging oil spills by digesting hydrocarbons of crude oil

(A) Rhizobium melioti   (B) Bacillus thuringiensis

(C) Pseudomonas putida   (D) Escherichia Coil

3. Pick out the feature of picot plant

(A) Leaves are isobilateral   (B) Mesoptyil is undifferentiated

(C) Roots show secondary growth   (D) Vascular bundies are closed

4. Which is NOT TRUE about Meiosis?

(A) Meiosis reduces the number of chromosomes to half (B) Meiosis occurs during gametogenesis

(C) Meiosis I results in two daughter cells   (D) Meiosis I is similar to Mitosis

5. The plant that shows hydrophily

(A) Vallisneria   (B) Maize   (C) Pea   (D) Raffiesia

6. Which one of the following is NOT associated with the process of hearing?

(A) Tympanum   (B) Semicircular canals (C) Cochlea   (D) Auditory canal

7. The skeletal joint that enables movement in only one direction is

(A) Hinge joint   (B) Ball and socket joint (C) Gliding joint   (D) Pivot joint

8. The part of the nucleolus that plays major role for the synthesis of ribosome

(A) Chromatin Reticulum   (B) Nuclear pore   (C) Nucleoplasm   (D) Nucleolus

9. Which is fungal disease?

(A) Athlete's foot   (B) Filariasis   (C) Measles's   (D) Rabies

10. Identify the statements related to dark reaction of photosynthesis

(A) Takes place in the stroma   (B) Formation of ATP

(C) Formation of glucose   (D) Evolution of oxygen

(A) (A) and (B0   (B) (B0 and (C)   (C) (A) and (C)   (D) (B) and (D)

11. Which option indicates the parts of gynoecium?

(A) Pollen grain, filament, ovary, tube nucleus   (B) Polar, nuclei, stigma, ovule, style

(C) Style stamen, stigma, generative nucleus   (D) Ovary, anther, filament, polar nuclei

12. Which is NOT TRUE about acid fermentation?

(A) Glycolysis is the initial phase   (B) Glucose is broken down incompletely

(C) Only two ATP molecules are generated   (D) Carbon dioxide is liberated

13.

	COLUMN – I		COLUMN – II
A	Mutualism	P	Lion and Rabbit
B	Commensailsm	Q	Loranthus on mango tree
C	Parasistism	R	Flower and butterfly
D	Predation	S	Banda on flcus tree

   (A) A – S, B – R, C – P, D – Q   (B) A – R, B – S, C – Q, D – P

   (C) A – Q, B – P, C – S, D – R   (D) A – R, B – S, C – P, D – Q

14. The hormone that promotes lactation and simulates the uterus to contract

   (A) Calcitionin   (B) Thyroxine   (C) Oxytocin   (D) Vasopressin

15. A box measures $10 cm \times 11.2 xm \times 10 cm$ Assume that this box is filled with neon gas at 1 atm pressure and 273K temperature. How many electrons will be there in the box?

   (A) 6.022×10^{23} (B) 3.011×10^{23} (C) 6.022×10^{22} (D) 3.011×10^{22}

16. The key step for the manufacture of sulphuric acid by contact process is given below which of the following are favorable for the contact process?

   (A) Pressure of 2 atm and temperature of about $450°C$ (B) Removal of SO_2 and O_2

   (C) Use of V_2O_2 as catalyst   (D) Removal of SO_2

   Choose the correct alternative

   (A) (A) and (B)   (B) (A) (B) and (C)   (C) (B), (C), and (D)   (D) (A), (C), and (D)

17. Which of the following sets contain molecules with double or triple bonds?

   (A) H_2, Br_2, H_2O, NH_3 (B) F_2, O_2, CO_2, Cl_2 (C) CO_2, N_2, H_2, NH_3 (D) NH_2, Cl_2, CH_4, CCl_4

   (A) (A) and (C)   (B) (B) and (C)   (C) (A) and (D)   (D) (B) and (D)

18. The number of electrons present in d – sub shell of copper atom

   (A) 3   (B) 9   (C) 10   (D) 8

19.

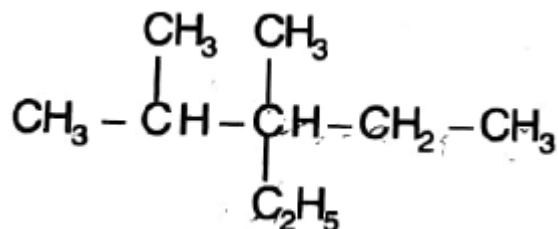|	COLUMN – I		COLUMN – II
A	Eye wash	P	Carbonic acid
B	Food preservation	Q	Tartaric acid
C	Baking poered	R	Cliric acid
D	Flavouring drinks	S	Boric acid oxalic acid
		T	Oxatic acid

   (A) A – T, B – R, C – Q, D – P   (B) A – R, B – Q, C – T, D – S

   (C) A – S, B – R, C – Q, D – T   (D) A – T, B – R, C – Q, D – P

20. Which of the folowing is the IUPAC name of the compound?

$$CH_3 - \underset{\underset{C_2H_5}{|}}{\overset{\overset{CH_3}{|}}{CH}} - \overset{\overset{CH_3}{|}}{CH} - CH_2 - CH_3$$

(A) 3 – Ethyl – 2, 3 – dimethyl pentane   (B) 3 – Ethyl -2, 3 – dimethyl hexance

(C) 3 – Ethyl – 3, 4 – dimethyl pentane   (D) 3 – Ethyl – 3, 4 – dimethyl hexane

21. Liquid ammonia bottles are cooled before opening the seal. Which of the followng laws is appled here?

(A) Boyle's law   (B) Charle's law   (C) Avogadro's law   (D) Graham's law

22. The components of alloy used for making permanent magnets

(A) Fe, Cr, Ni and G   (B) Fe, Co, Ni and Al   (C) Fe, Ni, Cu and C   (D) Fe, Cu, Cr and C

23. Which of the following are true?

(A) Lonisation energy icreses from left to right across a period

(B) Atomic size deceaes one going down a group

(C) Metallic Chaacter deceaese from left to right across a period

(D) Electronegativity increaese on going down a group

Choose the correct altenative

(A) (A) and (B)   (B) (A) and (D)   (C) (B) and (D)   (D) (A) and (C)

24. Type of isomerism exhibited by copound C_4H_8

(A) Chain isomerism only   (B) Chain isomerism and position isomerism

(C) Position isomerism only   (D) Functional isomerism only

25. Which of the following methods is used for the concentration of the are galena?

(A) Froth floatation   (B) Magnetic separation

(C) Leaching   (D) Gravity separation method

26. The number of moles of O_2 required for the complete combustion of 11.6g of butane

(A) $6.5 mol O_2$ (B) $11.6 mol O_2$ (C) $13 mol O_2$ (D) $1.3 mol O_2$

27. The gas produced when manganese dioxide is treated with hydrochloric acid

(A) Cl_2 (B) O_2 (C) H_2 (D) H_2O

28. Which of the following does NOT describe a ray that can be drawn for a concave mirror?

(A) An incident ray through the centre of curvature, reflecting right back throught the centre of curvature

(B) An incident ray through the centre of curvature, reflecting through the local point

(C) An incident ray throught the focal point, reflecting parallel to the principal axis

(D) An incident ray parallel to the principal axis, reflecting throught the local point

29. The potential difference between the point P and Q for the given network is
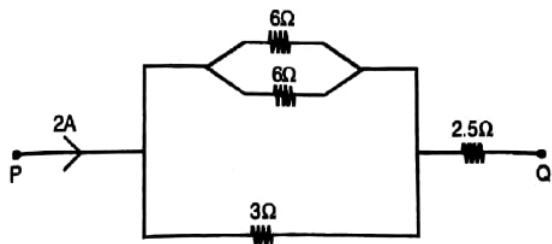
(A) 8V   (B) 35V   (C) 1V   (D) 7V

30. Which of the following statements about mass is false?

    (A) Mass remains constant at any place on the Earth

    (B) SI Unit of mass is kg

    (C) Mass of an object can be measured using spring balance

    (D) Mass is a fundamental quantity

31. The SI Unit of specific heat capacity of a substance is

    (A) $Jkg^{-1}K^{-1}$ (B) $Calkg^{-1}$ (C) Jkg^{-1} (D) $CalkgK^{-1}$

32. In a transformer the number of turns of primary coil and secondary coil are 5 and 4 respectively. If 240V is applied to the primary coil the ration of current in primary coil and secondary coil is

    (A) 5: 4   (B) 5: 10   (C) 4: 5   (D) 8: 12

33. Identify the circuit in which the diode is forward based
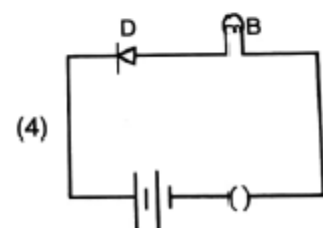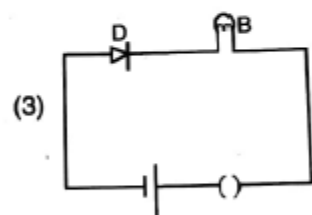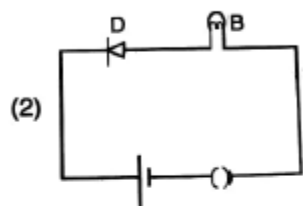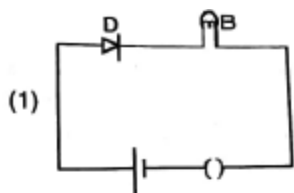
34. A particle of mass 100g is thrown vertically upwards at an initial speed of 5m/s. the work done by the force of gravity during the time the particle Goss up is

    (A) 1.25J   (B) 0.5J   (C) – 0.5J   (D) – 1.25J

35. On a stationary boat air is blown from an attached to the boat. The boat will

    (A) Not move

    (B) Spin around

    (C) Move in the direction in which air is blown

    (D) Move in the direction opposite to that in which air is blown

36. Sound signals were sent down from a ship rafter 2s. Find out the depth of the sea, if the sped of sound in water is 1.5km/s?

   (A) 3km   (B) 150m   (C) 300m   (D) 1.5m

37. An ice cube is suspended in vacuum in a gravity free hall. As the ice melts it

    (A) Will retain its cubical shape   (B) Will change its shape to spherical

    (C) Will fall down on the floor of the hall   (D) Will fly up

38. Which a glass rod rubbed with silk is brought near the cap of an electroscope, then

    (A) The leaf has an induced negative charge

    (B) No charge is induced on the leaves

    (C) Positive charge is induced on one leaf and negative charge on the other leaf

    (D) The leaf has an induced positive charge

39. Which one of the following graphs shown below represents uniform speed?

               Courtesy : NTSE
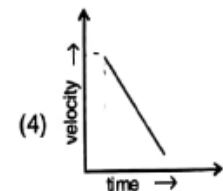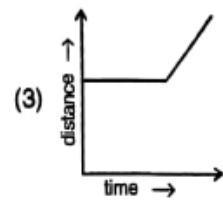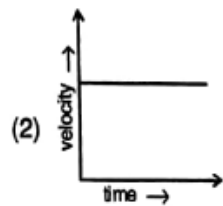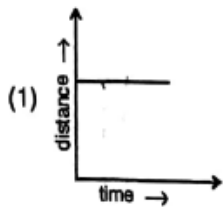
40. An iron ball and wooden ball of same radius are released from a light h in vacuum. The time taken by both of then to reach the ground are

    (A) Roughly equal   (B) Exactly equal

    (C) Not equal   (D) Equal only at the equator

41. What is the smallest number which leaves the same remainder 1 on division by 18, 24, 30, 42?

    (A) 2519   (B) 2520   (C) 2521   (D) 2522

42. What is sum of all factors of 256?

    (A) 511   (B) 512   (C) 1023   (D) 1024

43. The differentness of the squares of two consecutive natural numbers is 101, what is the sum of the numbers?

    (A) 102   (B) 101   (C) 100   (D) 99

44. The sum of two numbers is 40 and their difference is 10 what is their product?

    (A) 325   (B) 350   (C) 375   (D) 400

45. The 5th term of an arithmetic sequence is 5 and sum of the first 5 terms is 55. What is its first term?

    (A) 15   (B) 16   (C) 17   (D) 18

46. The sum of the first 11 terms and the sum of the first 17 terms of a sequence are equal. What is the sum of the first 28 terms?

    (A) 28   (B) 1   (C) – 1   (D) 0

47. There are two taps to fill a tank. If both are opened, the tank fills in 1 hour. If the smaller tap alone is opened, it takes 3 hours to fill the tank. How many hours will take to fill the tank, the larger tap alone is opened?

    (A) 2   (B) $1\dfrac{1}{2}1$ (C) $1\dfrac{1}{3}$ (D) $1\dfrac{1}{4}$

48. What is the number you get on simplifying the sum $\dfrac{1}{3}+\dfrac{1}{3^2}+\dfrac{1}{3^3}+...+\dfrac{1}{3^{10}}+\dfrac{1}{2\times3^{10}}$?

    (A) 1   (B) $\dfrac{2}{3}$ (C) $\dfrac{1}{2}$ (D) $\dfrac{1}{3}$

49. What do we get on simplifying the expression? $\dfrac{x}{x+1}+\dfrac{x+1}{x}-\dfrac{1}{x(x+1)}$?

    (A) 2   (B) $\dfrac{1}{2}$ (C) $2x$ (D) $\dfrac{1}{2}x$

50. The figure shows a right triangle and square inside is
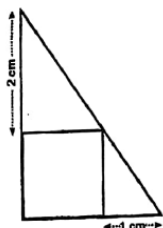
What is the length of a side of the square?

    (A) $\sqrt{3}$ (B) $\sqrt{2}$ (C) 2   (D) 1

51. The sum of two numbers and the difference of their squares are both 10. What is the larger of these two numbers?

(A) 4   (B) $1\dfrac{1}{4}$ (D) 5   (D) $5\dfrac{1}{2}$

52. Two dice marked with numbers 1 to 6 are rolled together. What is the probability of getting an odd numbers on one of these and a multiple of three one the other?

(A) $\dfrac{1}{6}$ (B) $\dfrac{1}{3}$ (C) $\dfrac{11}{36}$ (D) $\dfrac{13}{36}$

53. A square is drawn with vertices on a circle. The area of the square is 4 square centimeters. What is the are of the circler (in sq. cm)?

(A) x (B) $\sqrt{2}x$ (C) $2x$ (D) $4x$
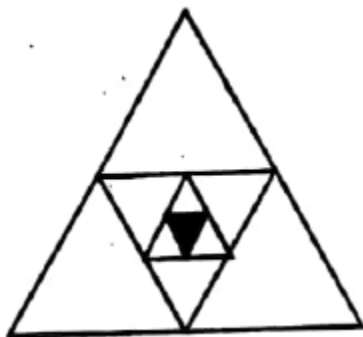
54. in the figure. The bisector of an angle of the large triangle cuts the opposite side into two pieces
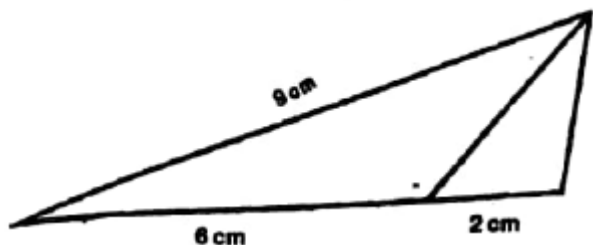
What is the length of the third side of the triangle in centimeters?

(A) 3   (B) 3.5   (C) 4   (D) 4.5

55. in the figure. Each side of the largest triangle is 1 meter. By joining the midpoints of the sides of each triangle, an inner triangle is drawn

What is the area of the smallest triangle (in sq. m)?

(A) $\dfrac{\sqrt{3}}{4}\left(\dfrac{1}{16}\right)^2$ (B) $\dfrac{\sqrt{3}}{4}\left(\dfrac{1}{8}\right)^2$ (C) $\dfrac{\sqrt{3}}{4}\left(\dfrac{1}{2}\right)^2$ (D) $\dfrac{\sqrt{3}}{4}\left(\dfrac{1}{4}\right)^2$

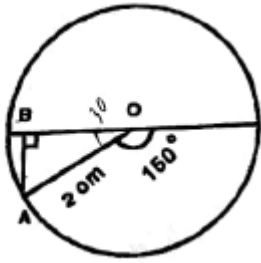56. In the figure three vertices of a regular octagon are joined to form a triangle

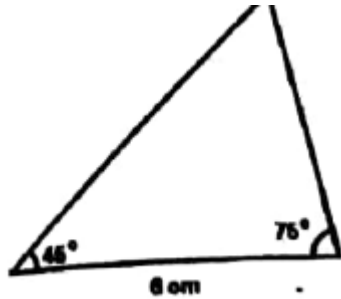What is the angle at the top vertex of the triangle?

(A) $22\dfrac{1}{2}^{\circ}$ (B) 25° (C) $27\dfrac{1}{2}^{\circ}$ (D) 30°

57. in the figure. O is the centre of the circle and A is a point on it

(A) 1

(B) $\sqrt{3}$

(C) $\dfrac{1}{\sqrt{3}}$

(D) $\dfrac{\sqrt{3}}{2}$

58. In the figure below, what is the length of the smallest side of the triangle?

(A) 6

(B) $\sqrt{6}$

(C) $2\sqrt{6}$

(D) $2\sqrt{3}$

59. What are the coordinates of the point Q in the figure below?
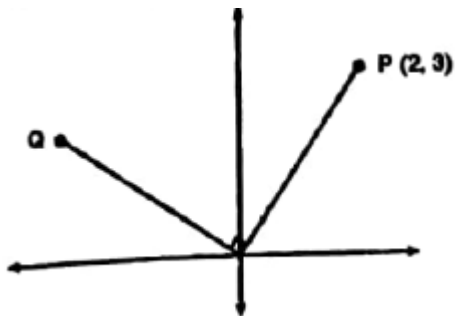
(A) (3, 2)

(B) (- 4, 1)

(D) $\left(-3\sqrt{2}, 2\sqrt{2}\right)$

(D) (-3, 2)

60. The figure below shows a semicircle drawn on a part of the x – axis as diameter
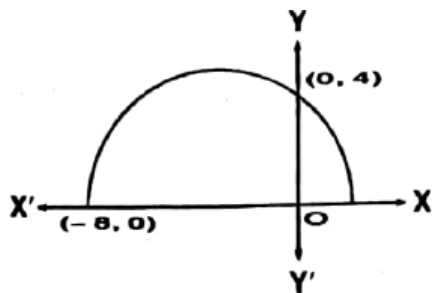
What are the coordinates of the other end of the diameter?

(A) (1, 0)

(B) (2, 0)

(D) $\left(\sqrt{2}, 0\right)$

(D) $\left(1\dfrac{1}{2}, 0\right)$

61. The following in chronological order
    (A) Second continental congress
    (B) Trebly of Paris
    (C) Boston tea party
    (D) End of the war between Britain and the American Colonels

    (A) c, d, a, b   (B) a, d, b, c   (D) c, a d, b   (D) a, c, d, b

62. The eighteenth century was called
    (A) The age of conflict   (B) The age of Reason   (C) The age of ideas   (D) The age of Nationalism

63. Name the chancellor of Austria during the Vienna congress

    (1) Napoleon
    (2) William II
    (3) Tallyrand
    (4) Metternich

64. Which was known as "The War to End All Wars"
    (A) Second Word War   (B) French Revolution   (C) First World War   (D) Civil War

65. The following is wrongly related?
    (A) Kurichya Revolt – Tribal Revolt   (B) Indigo Revolt – Peasant Revolt
    (C) Santhal Rebellion – Peasant Rebellion   (D) Vellore Mutiny – Sepoy Mutiny

66.

	COLUMN – I		COLUMN – II
A	Bulan darwaze	P	Shahjahan
B	Moti masjid in lahore	Q	Aurangazeb
C	Jama masjid	R	Akbar
D	Badshi mosque	S	Jahangir

    (A) A – R, B – S, C – P, D – Q   (B) A – R, B – P, C – S, D – Q
    (C) A – P, B – S, C – R, D – Q   (D) A – P, B – Q, C – S, D – R

67. Name the founder of the Virashaiva movement
    (A) Vallabhacharya   (B) Ramananda   (C) Ramanuja   (D) Basavanna

68. The high ranking official in charge of controlling markets during the reign of Alauddin Khaiji
    (A) Wazir   (B) Shahna   (C) Wakil – I – Dar   (D) Wail

69. Nicolo Conti, who visited India during the rule of Vijayanagar Empire, was a native of
    (A) Russia   (B) Portugal   (C) Africa   (D) Italy

70.

Who started the 'Swadesh Vastra Pracharini Sabha' as a part of the Swadeshi movement ?

(1) Bal Gangadhara Tilak

(2) Lala Lajpat Rai

(3) Bipin Chandra Pal

(4) Rabindranath Tagore

71. Who started the 'Swadesh Vastra Prachanni Sabha' as a part of the swadesh movement?

(A) Bal Gangadhara Tilak   (B) Lala Laipat Raj   (C) Bipin Chandra Pal   (D) Rabindranath Tagore

72. The head quarters of the 'National school of Dram's is at

(A) Bombay   (B) Kolkata   (C) New Delhi   (D) Pane

73. The geographical factor which is NOT favorable for the growth of rubber

(A) Temperature between $25°C$ and $35°C$ (B) Clayey soil

(C) Landfall above 150cm   (D) Land free from water logging

74. The pair of ocean currents and oceans NOT correctly matched

Ocean Currents   Oceans

(A) Kuroshio current   - Atlantic ocean

(B) Oyashio Current – Pacific ocean

(C) Mozambique current – India Ocean

(D) Gulf stream – Atlantic ocean

75. The climatic region characterized by winter rainfall

(A) Monsoon region   (B) Tropical deserts   (C) Medetrrmean region (D) Tundra region

76. The pressure belt that forms exclusively due t the sinking of air is

(A) Equatorial low pressure belt   (B) Sub tropical high pressure belt

(C) Sub polar low pressure belt   (D) Polar high pressure belt

77. The state in India with the lowest ratio as per census 2011

(A) Punjab   (B) Haryana   (C) Kerala   (D) Tamil Nadu

78. The river to which indravatis a tributary

(A) River Krishna   (B) River Godavari   (C) River Mahanadi   (D) River kaveri

79. Two places 'A' and 'B' are found marked 10c, apart on a map. What is the actual distance between these two places on the ground if the scale of the map is 1: 50000?

(A) 5km   (B) 20km   (C) 10km   (D) 0.5km

80. Which one of the following is NOT a depositional landform?

(A) Stalagmites   (B) Mushroom rocks   (C) Moraines   (D) Beaches

81. A steel plant established in India with the collaboration of UK

(A) Bhliai steel plant   (B) Rourkela steel plant (C) Bokaro steel plant   (D) Durgapur steel plant

82. The one which occurs at divergent plate margins
   (A) Collision of plates
   (B) Lateral movement
   (C) Formation of fold mountains
   (D) Sea floor spreading

83. Which one of the following is NOT a greenhouse gas?
   (A) Carbon dioxide
   (B) Methane
   (C) Nitrous oxide
   (D) Argon

84. Identify the wrong pair
   (A) Varanasi – Kanyakumar – NH 17
   (B) Salem – Kanyakumar – NH 47
   (C) Agra – Mumbar – NH 3
   (D) Nasik – Pune – NH 4

85. The new Economic Policies which disregard government control are know as
   (A) Liberallsation
   (B) Neo – liberalization
   (C) Privatization
   (D) Globalization

86. The date on which the Reserve Bank of India (RBI) introduced the new 2,000 notes in 2016 is
   (A) November 7
   (B) November 8
   (C) November 9
   (D) November 10

87. The expansion of 'WTO' is
   (A) Web trade organization
   (B) World tourism Organization
   (C) World trade organization
   (D) Web tourism organization

88. Which of the following is NOT made from petroleum?
   (A) Artificial fibers
   (B) Mica
   (C) Vaseline
   (D) Kerosine

89. Who is the present Govemor of RBI?
   (A) Dr. Urjit Patel
   (B) Dr. Raghuram Rajan
   (C) Dr. Subba Rao
   (D) Dr. Range Rajen

90. Which one of the following is the biggest agro based industry in India?
   (A) Rubber
   (B) Cotton Taxies
   (C) Sugar
   (D) Jute

91. The biggest Commercial Bank in India is
   (A) Oriental Bank of Commerce (OBC)
   (B) HDFC Bank
   (C) State Bank of India (SBI)
   (D) Federal Bank

92. Which one of the following is NOT accepted as a security against loans by the commercial Banks?
   (A) Approved salary certificate
   (B) Gold
   (C) Land Title Document
   (D) Debit Car

93. Find out the country where Direct Democracy existed
   (A) India
   (B) England
   (C) Greece
   (D) Arabla

94. Which among the following is formed by indirect election?
   (A) Legislative Assembly
   (B) Rajya sabha
   (C) Lok Sabha
   (D) none of these

95. Number of Lok Sabha Constituencies in Kerala
   (A) 19
   (B) 8
   (C) 540
   (D) 20

96. Who among the following is eligible for voting right in India?

    (A) Any person, 21 years of age

    (B) Any Indian citizen who has completed 18 years of age

    (C) Any person with formal education, who has completed 18 years of age

    (D) A person who has completed 18 years of age

97. To which of the following categories does the District Collector belong?

    (A) All India Service   (B) Central Service   (C) State Service   (D) None of these

98. The first Electron Commissioner of independent India

    (A) T. N. Seshan   (B) V. s Ramadevi   (C) R. V Khuraizi   (D) Sukumar Sen

99. The Minimum age limit for a person contesting elections to the Rajya Sabha

    (A) 30   (B) 25   (C) 18   (D) 35

100. Which among the following is NOT a function of the Election Commission?

    (A) To audit the Election Expenditure   (B) To prepare the voters list

    (C) To issue Election Symbols   (D) To Choose the candidates

Answer key

1. 2	2.	3. 3	4. 4	5. 1
6. 2	7. 1	8. 4	9. 1	10. 3
11. 2	12. 4	13. 2	14. 3	15. 2
16. 4	17. 2	18. 3	19. 1	20. 1
21. 4	22. 2	23. 4	24. 2	25. 1
26. 4	27. 1	28. 2	29. 1	30. 3
31. 1	32. 3	33. 1	34. 4	35. 1
36. 4	37. 2	38. 4	39. 2	40. 2
41. 3	42. 1	43. 2	44. 3	45. 3
46. 4	47. 2	48. 3	49. 1	50. 2
51. 4	52. 3	53. 3	54. 1	55. 2
56. 1	57. 1	58. 3	59. 4	60. 2