# NTSE STAGE II (2016-17)
CODE: 13 – 15
SAT
Held on: May 14, 2017

1.   Small cut pieces of soft stems are placed in growth medium with following plant hormones. Which combination of plant hormones will show slowest growth?
      (1) Auxin + Cytokinin   (2) Gibberellins + Auxin
      (3) Gibberellins + Cytokinin   (4) Abscisic Acid + Auxin

2.   Which one of the following demonstrates the characteristics of cardiac muscle cells?
      (1) Involuntary and multinucleated   (2) Unbranched and uninucleated
      (3) Cylindrical and uninucleated   (4) Unbranched and involuntary

3.   From the given figure identify the part of human brain controlling most of the involuntary actions:
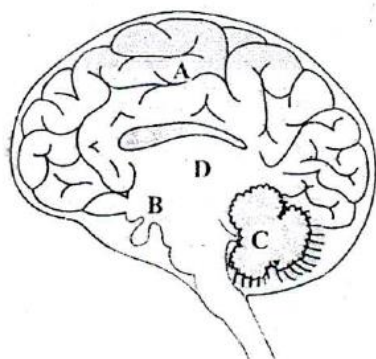
      (1) A & B   (2) B & C
      (3) C & D   (4) D & A

4.   An animal kept in a jar has the following features.
      I. It is bilaterally symmetrical   II. It has coelomic cavity
      III. The body is segmented   IV. It has jointed appendages
      To which phylum does the animal belong to?
      (1) Arthropoda   (2) Annelida
      (3) Platyhelminthes   (4) Mollusca

5.   Read the following statements and select the correct option.
      Statement I: Nostoc and Bacteria are prokaryotes
      Statement II. Penicillium and Spirogyra are fungi
      (1) Only statement I is true   (2) Only statement II is true
   (3) Both statements I & II are true   (4) Both statements I & II are false

6.   You find a herbaceous flowering plant growing in your school garden having leaves with parallel venation. Choose the correct additional features the given plant would be possessing.
      I. It has no secondary vascular tissues   II. Its flower possesses three sepals
      III. It possesses tap root   IV. Its embryo has 2 cotyledons
      (1) I & II   (2) I & III
      (3) II & IV   (4) III & IV

---

7. Varieties of vegetables such as cabbage, broccoli and cauliflower have been produced from a wild cabbage species. Such process of producing new varieties of living organisms in called
(1) natural selection
(2) artificial selection
(3) speciation
(4) genetic drift

8. Which of the following are pairs of analogous organs?
I. Forelimbs of horse – Wings of bat
II. Wings of bat – Wings of butterfly
III. Forelimbs of horse – Wings of butterfly
IV. Wings of bird – Wings of bat
(1) I & II
(2) II & IV
(3) III & IV
(4) II & III

9. Which of the following organisms is used as a biopesticide?
(1) Azolla
(2) Anabaena
(3) Rhizobium
(4) Trichoderma

10. A tall plant(TT) is crossed with a dwarf plant(tt). All F_1 plants showed tall phenotype. Which of the following correctly defines a test cross?
(1) $TT(F_1) \times Tt(P)$
(2) $Tt(F_1) \times Tt(P)$
(3) $tt(F_1) \times Tt(P)$
(4) $Tt(F_1) \times tt(P)$

11. Which one of the following pairs of causative agent and type of disease are correct?
I. Leishmania – Sleeping sickness
II. Nematode – Elephantiasis
III. Trypanosoma – Kala azar
IV. Staphylococcus – Acne
(1) I & II
(2) I & III
(3) II & IV
(4) III & IV

12. Pancreatic juice contains more than one enzyme. Which among the following combination is correct?
(1) Pepsin and lipase
(2) Amylase and pepsin
(3) Pepsin and trypsin
(4) Trypsin and lipase

13. You discover a new species of a plant. You also discover that is produces motile sperms and dominant generation has diploid cells. It belongs to
(1) Bryophyte
(2) Angiosperm
(3) Gymnosperm
(4) Pteridophyte

14. At every 20 minutes, one bacterium divide into two. How many bacteria will be produced after two hours, if one starts with 10 bacteria?
(1) $2^5 \times 10$
(2) $2^5 \times 10^5$
(3) $2^6 \times 10$
(4) $2^6 \times 10^6$

15. The metal(M) forms an oxide, M_2O_3. The formula of its nitride will be
(1) M_2N_3
(2) MN
(3) M_2N
(4) M_3N_2

16. A solution is a homogeneous mixture of two or more substances. Which of the following is a solution?
(1) Milk
(2) Smoke
(3) Brass
(4) Face cream

17. 1.80 g of glucose is dissolved in 36.00 g of water in a beaker. The total number of oxygen atoms in the solution is
(1) 12.405×10^{23}
(2) 12.405×10^{22}
(3) 6.022×10^{23}
(4) 6.022×10^{22}

18. ^{35}Cl and ^{37}Cl are the two isotopes of chlorine, in the ratio 3 : 1 respectively. If the isotope ratio is reversed, the average atomic mass of chlorine will be:
(1) 35.0 u
(2) 35.5 u
(3) 36.0 u
(4) 36.5 u

19. The turmeric solution will turn red by an aqueous solution of
(1) potassium acetate
(2) copper sulphate
(3) sodium sulphate
(4) ferric chloride

20. A metal 'M' of moderate reactivity is present as its sulphide 'X'. On heating in air, 'X' converts into its oxide, 'Y' and a gas evolves. On heating 'Y' and 'X' together, the metal. 'M' is produced. 'X' and 'Y' respectively are
(1) 'X' = cuprous sulphide, 'Y' = cuprous oxide
(2) 'X' = cupric sulphide, 'Y' = cupric oxide
(3) 'X' = sodium sulphide, 'Y' = sodium oxide
(4) 'X' = calcium sulphide, 'Y' = calcium oxide

21. Which one of the following statement is incorrect about graphite and diamond?
(1) Graphite is smooth and slippery
(2) Diamond is good conductor of heat
(3) Graphite is a good conductor of electricity
(4) Physical and chemical properties of graphite and diamond are different

22. The functional groups present in the following compound are
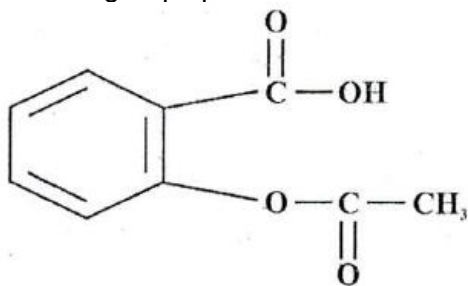
(1) alcohol, ketone and ester
(2) ester and carboxylic acid
(3) carboxylic acid and ketone
(4) ester and alcohol

23. A part of the modern periodic table is presented below in which the alphabets represent the symbols of elements.

| Group → Period ↓	1	2	14	15	16	17
2				M	Q	
3	A	J			R	
4	E		L			T
5	G					X

Consult the above part of the periodic table to predict which of the following is a covalent compound.
(1) RQ_2
(2) AT
(3) JQ
(4) JX_2

24. A compound 'X' reacts with a compound 'Y', to produce a colourless and odourless gas. The gas turns lime water milky. When 'X' reacts with methanol in the presences of concentrated H_2SO_4, a sweet smelling substance is produced. The molecular formula of the compound 'X' is

(1) C_2H_4O (2) $C_2H_4O_2$
(3) C_2H_6O (4) $C_2H_6O_2$

25. The schematic diagram is given below:
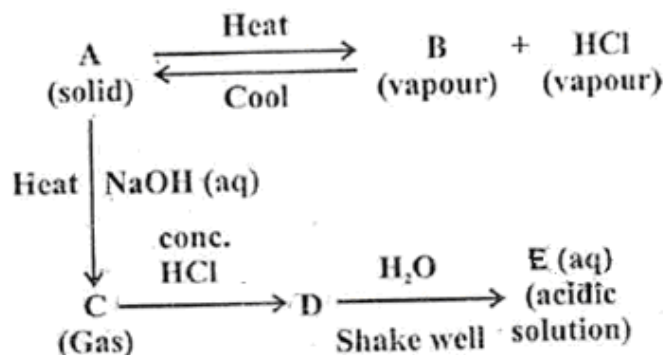
Which of the following is an incorrect statement?
(1) A and E are chemically same   (2) A and D are chemically same
(3) D and E are chemically same   (4) C and E are chemically same

26. Which of the following is a feasible reaction?
   (1) $Ba(s) + K_2SO_4(aq) \longrightarrow BaSO_4(aq) + 2K(s)$
   (2) $Zn(s) + 2AgNO_3(aq) \longrightarrow Zn(NO_3)_2(aq) + 2Ag(s)$
   (3) $Mg(s) + Na_2SO_4(aq) \longrightarrow MgSO_4(aq) + 2Na(s)$
   (4) $Cu(s) + MgSO_4(aq) \longrightarrow CuSO_4(aq) + Mg(s)$

27. Some ice pieces kept at a temperature -5°C are heated gradually to 100°C in a beaker. The temperatures of the contents are plotted against time. The correct plot is:
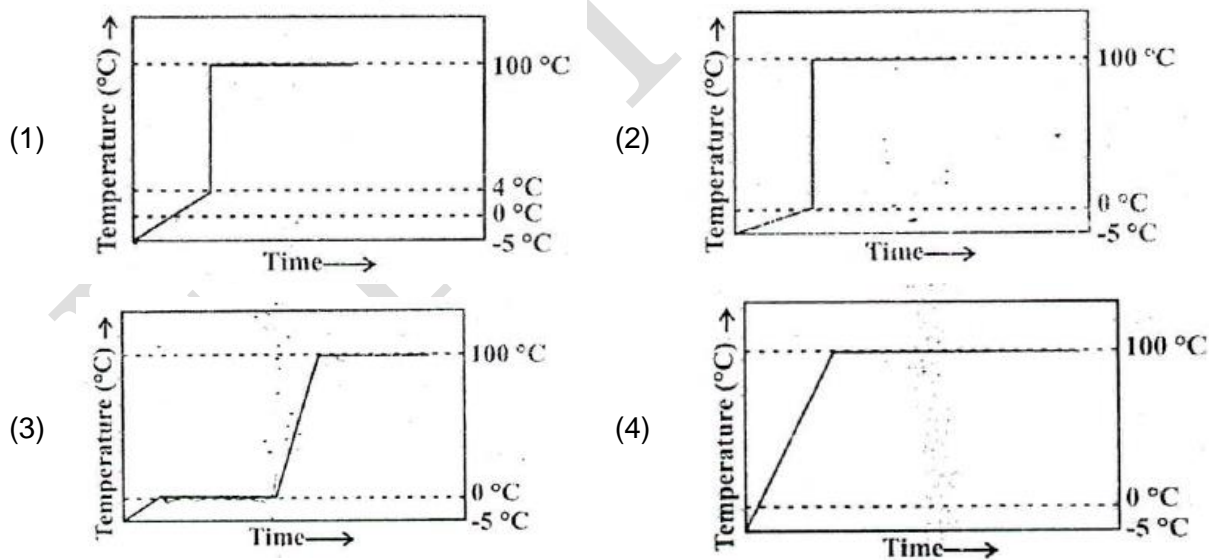
28. The velocity-time graph of an object moving along a straight line is shown below:
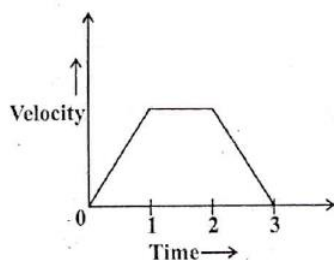

Which one of the following graphs represents the acceleration(a) – time(t) graph for the above motion?

(1)

(2)

(3)

(4)
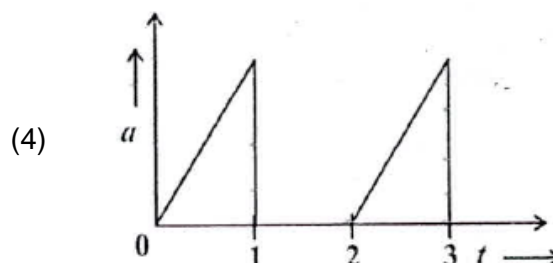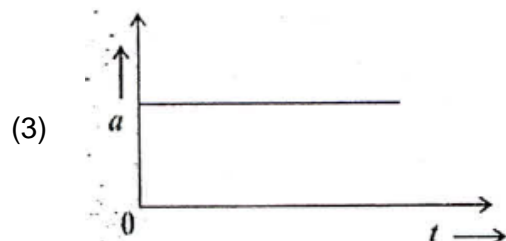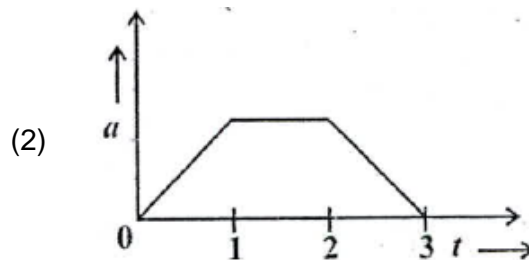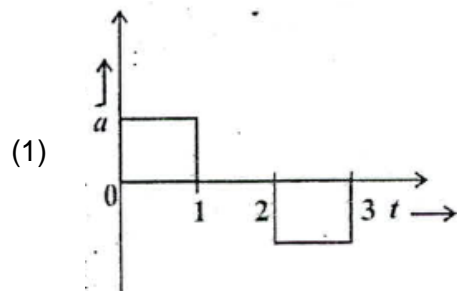
29. To read a poster on a wall, a person with defective vision needs to stand at a distance of 0.4 m from the poster. A person with normal vision can read the poster from a distance of 2.0 m. Which one of the following lens may be used to correct the defective vision?
(1) A concave lens of 0.5 D
(2) A concave lens of 1.0 D
(3) A concave lens of 2.0 D
(4) A convex lens of 2.0 D

30. A ball released from rest at time t = 0 hits the ground. It rebounds inelastically with a velocity 5 ms^{-1} and reaches the top at t = 1.5 s, what is the net displacement of the ball from its initial position after 1.5 s?
($g = 10$ ms^{-2})

$t = 0$

$t = 1.5$ s
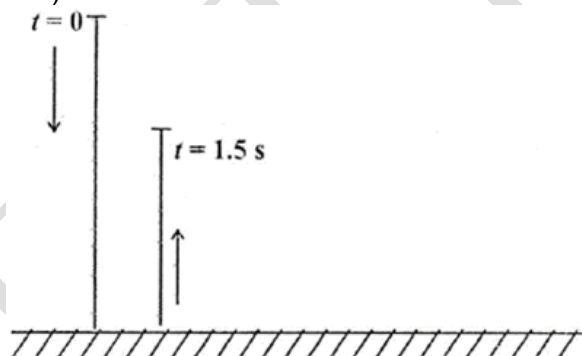
(1) 1.25 m
(2) 3.75 m
(3) 5.00 m
(4) 6.25 m

31. A horizontal jet of water is made to hit a vertical wall with a negligible rebound. If the speed of water from the jet is 'v', the diameter of the jet is 'd' and the density of water is 'ρ' then the force exerted on the wall by the jet of water is

(1) $\frac{\pi}{4}d^2\rho\upsilon$

(2) $\frac{\pi}{4}d^2\rho\upsilon^2$

(3) $\frac{\pi}{8}d^2\rho\upsilon^2$

(4) $\frac{\pi}{2}d^2\rho\upsilon^2$

32. Two blocks A and B of masses 8 kg and 2 kg respectively, lie on a horizontal frictionless surface as shown in the figure. They are pushed by a horizontally applied force of 15 N. The force exerted by B on A is
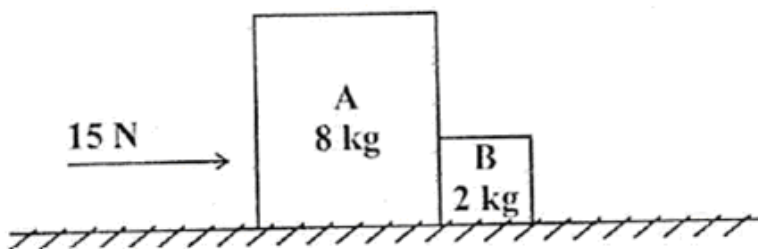
(1) 1.5 N   (2) 3.0 N
(3) 4.5 N   (4) 6.0 N

33.   A beaker half-filled with water is put on a platform balance which is then set to zero. A 800 g
       mass is immersed partially in water using a spring balance as shown in the figure. If the
       spring balance reads 300 g, what will be the reading on the platform balance?
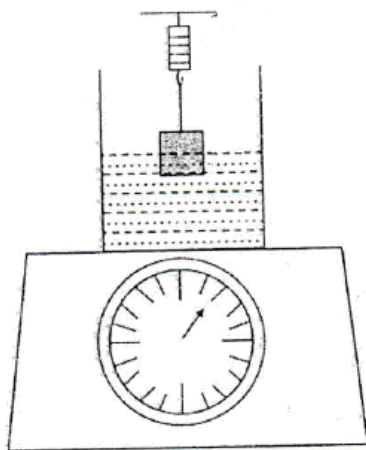
(1) 200 g   (2) 300 g
(3) 500 g   (4) 800 g

34.   An object falls a distance H in 50 s when dropped on the surface of the earth. How long
       would it take for the same object to fall through the same distance on the surface of a planet
       whose mass and radius are twice that of the earth? (Neglect air resistance)
       (1) 35.4 s   (2) 50.0 s
       (3) 70.7 s   (4) 100.0 s

35.   A source produces sound waves under water. Waves travel through water and then into air.
       Which of the following statements about the frequency(f) and the wavelength(λ) is correct as
       sound passed from water to air?
       (1) f remains unchanged but λ decreases   (2) f remains unchanged but λ increases
       (3) λ remains unchanged but f decreases   (4) λ remains unchanged but f increases

36.   The diameter of a wire is reduced to one-fifth of its original value by stretching it. If its initial
       resistance is R, what would be its resistance after reduction of the diameter?

       (1) $\dfrac{R}{625}$ (2) $\dfrac{R}{25}$

       (3) 25 R   (4) 625 R

37.   An object of mass 'm' moving along a straight line with a velocity 'u' collides with a heavier
       mass 'M' and gets embedded into it. If the compound system of mass (M + M) keeps moving
       in the same direction then which of the given options is true?
   (1) The kinetic energies before and after collision are same

       (2) The kinetic energy after collision is $\dfrac{1}{2}(M+m)u^2$

(3) There will be a loss of kinetic energy equal to $\dfrac{1}{2}\dfrac{m^2 u^2}{(M+m)}$

(4) There will be a loss of kinetic energy equal to $\dfrac{1}{2}\dfrac{Mm}{(M+m)}u^2$

38. A vessels is filled with oil as shown in the diagram. A ray of light from point O at the bottom of vessels is incident on the oil – air interface at point P and grazes the surface along PQ. The refractive index of the oil is closed to –
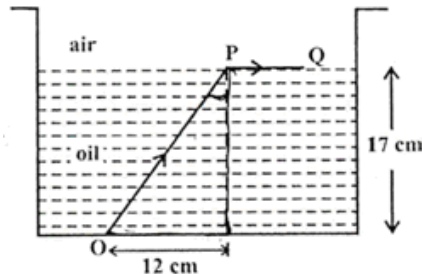
(1) 1.41   (2) 1.50
(3) 1.63   (4) 1.73

39. A charged particle placed in an electric fields falls from rest through a distance d in time t. If the charge on the particle is doubled, the time of fall through the same distance will be
(1) 2t   (2) t

(3) $\dfrac{t}{\sqrt{2}}$ (4) $\dfrac{t}{2}$

40. AB is a long wire carrying a current I_1, and PQRS is a rectangular loop carrying current I_2 (as shown in the figure)
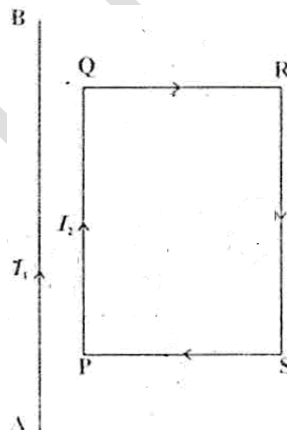
Which among the following statements are correct?
(1) Arm PQ will get attracted to wire AB, and the arm RS will get repelled from wire AB
(2) Arm PQ will get repelled from wire AB and arm RS attracted to wire AB.
(3) Forces on the arm PQ and RS will be unequal the opposite.
(4) Forces on the arms QR and SP will be zero
(1) Only A   (2) B and C
(3) A and C   (4) B and D

41. The sum of all the possible remainders which can be obtained when the cube of a natural number is divided by 9, is
(1) 5   (2) 6
(3) 8   (4) 9

42. When a polynomial p(x) is divided by x – 1, the remainder is 3. When p(x) is divided by x – 3, the remainder is 5. If r(x) is the remainder when p(x) is divided by (x - 1) (x - 3), then the value of r(-2) is
(1) -2 (2) -1
(3) 0 (4) 4

43. For what value of p, the following pair of linear equations in two variables will have infinitely many solutions?
px + 3y – (p -3) = 0
12x +py – p = 0
(1) 6 (2) -6
(3) 0 (4) 2

44. Two quadratic equations $x^2 - bx + 6 = 0$ and $x^2 - 6x + c = 0$ have a common root. If the remaining roots of the first and second equations are positive integers and are in the ratio 3:4 respectively, then the common root is
(1) 1 (2) 2
(3) 3 (4) 4

45. First term of an arithmetic progression is 2. If the sum of its five terms is equal to one-fourth of the sum of the next five terms, then the sum of its first 30 terms is
(1) 2670 (2) 2610
(3) -2520 (4) -2550

46. A circle C is drawn inside a square S so that the four sides of S are tangents to C. An equilateral triangle T is drawn inside C with its vertices on C. If the area of S is k times the are of T, then the value of k is
(1) $\dfrac{16}{3\sqrt{3}}$ (2) $\dfrac{16}{\sqrt{3}}$
(3) $\dfrac{32}{3\sqrt{3}}$ (4) $\dfrac{32}{\sqrt{3}}$

47. Let AP be a diameter of a circle of radius r and PT be the tangents to the circle at the point P such that the line AT intersects the circle at B. If PT = 8 units and BT = 4 units, then r is equal to
(1) $4\sqrt{3}$ units (2) 4 units
(3) $\dfrac{4}{\sqrt{3}}$ units (4) $2\sqrt{3}$ units

48. If the quadratic equation $x^2 + bx + 72 = 0$ has two distinct integer roots, then the number of all possible values for b is
(1) 12 (2) 9
(3) 15 (4) 18

49. If the area of a square inscribed in a semi circle is 2 cm², then the area of the square inscribed in a full circle of the same radius is
(1) 5 cm² (2) 10 cm²
(3) $5\sqrt{2}$ cm² (4) 25 cm²

50. If the discriminants of two quadratic equations are equal and the equations have a common root 1, then the other roots
(1) are either equal or their sum is 2 (2) have to be always equal
(3) are either equal or their sum is 1 (4) have their sum equal to 1

51. Three circular wires are attached in series such that, if one wire is rotated, other two also get rotated. If the diameter of a wire is $\frac{4}{5}$ times that of immediate left wire and the left most wire rotates at the speed of 32 revolutions per minute, then the number of revolutions made by right most wire per minute will be
(1) 40   (2) 49
(3) 50   (4) 60

52. Let ABC be an equilateral triangle. If the co – ordinates of A are (1, 2) and co – ordinates of B are (2, –1) then
(1) C cannot lie in the first quadrant   (2) C cannot lie in the second quadrant
(3) C is the origin   (4) C cannot lie in the third quadrant

53. Shyam wants to make a solid brick shape structure from 400 wooden cubes of unit volume each. If the sides of the solid brick have the ratio 1 : 2 : 3, then the maximum number of cubes, which can be used, will be
(1) 400   (2) 288
(3) 300   (4) 384

54. Positive integers from 1 to 21 are arranged in 3 groups of 7 integers each, in some particular order. Then the highest possible mean of the median of these 3 groups is
(1) 16   (2) 12.5
(3) 11   (4) 14

55. On dividing 2272 as well as 875 by a 3 – digit number N, we get the same remainder in each case. The sum of the digits of N is
(1) 10   (2) 11
(3) 12   (4) 13

56. A line ℓ passing through the origin makes an angle θ with positive direction of x – axis such that $\sin\theta = \frac{3}{5}$. The co – ordinates of the point, which lies in the fourth quadrant at a unit distance from the origin and an perpendicular to ℓ, are
(1) $\left(\frac{3}{5}, -\frac{4}{5}\right)$ (2) $\left(\frac{4}{5}, -\frac{3}{5}\right)$
(3) (3, –4)   (4) (4, –3)

57. The values(s) of k for which $x^2 + 5kx + k^2 + 5$ is exactly divisible by $x + 2$ but not by $x + 3$ is (are)
(1) 1   (2) 5
(3) 1, 9   (4) 9

58. If $\cos^4\theta + \sin^2\theta = m$, then
(1) $1 \leq m \leq 2$ (2) $\frac{1}{2} \leq m \leq 1$
(3) $\frac{3}{4} \leq m \leq 1$ (4) $\frac{3}{4} \leq m \leq \frac{13}{16}$

59. Cost of 2 apples, 3 bananas and one coconut is ₹ 26. Also the cost of 3 apples, 2 bananas and two coconuts is ₹ 35. Then the cost of 12 apples, 13 bananas and 7 coconuts is
(1) ₹ 172   (2) ₹ 148
(3) ₹ 143   (4) ₹ 126

60. ABC is a field in the form of an equilateral triangle. Two vertical poles of heights 45 m and 20 m are erected at A and B respectively. The angles of elevation of the tops of the two poles from C are complementary to each other. There is a point D on AB such that from it, the angles of elevation of the tops of the two poles are equal. Then AD is equal to

(1) $17\dfrac{5}{12}$ m

(2) $20\dfrac{10}{13}$ m

(3) $20\dfrac{5}{13}$ m

(4) $17\dfrac{10}{12}$ m

61. Arrange the developments related to European history in a chronological sequence.
   I.   Napoleon invaded Italy.
   II. Unification of Italy.
   III. Unification of Germany
   IV. Vienna Settlement
   (1) I, III, II and IV
   (2) I, II, IV and III
   (3) I, IV, II and III
   (4) I, II, III and IV

62. Which of the following statements about Liberals in 19th century Europe are correct?
   I. They favoured the Catholic Church.
   II. They opposed dynastic rule with unlimited power.
   III. They were democrats.
   IV. They did not want any voting rights for women
   (1) I, II and III
   (2) I, II and IV
   (3) II and IV
   (4) III and IV

63. Which of the following statements are correct?
   I. In the beginning Bombay was under the Portuguese control.
   II. Control of Bombay passed onto the French in the 17th century.
   III. The Marathas replaced the French in Bombay
   IV. Bombay became the capital of the Presidency in early 19th century
   (1) I, II and IV
   (2) I and IV
   (3) I, II and III
   (4) II, III and IV

64. Which of the following statements are correct?
   I. The Chinese introduced printing
   II. The Buddhist missionaries introduced printing in Japan
   III. The Chinese developed printing to facilitate their expanding trade.
   IV. Printing reached Europe through Italy.
   (1) I, II and III
   (2) I, II and IV
   (3) II, III and IV
   (4) I and IV

Direction (Questions 65 – 72): Read the statements and select the correct answer from the options given below.

1. Statement 1 is true, Statement II is false.
2. Statement 1 is false, Statement II is true
3. Both Statement are true, and Statement II provides explanation to Statement I
4. Both Statements are true, but Statement II does not provide explanation of Statement I

65. Statement I : During the years of the Great Depression the economic crisis was worse in Germany
   Statement II : The President of the Weimar Republic had the power of impose emergency

66. Statement I : The Forest Act of 1878 categorized some forests as 'reserved forests'.
   Statement II : They were considered the best forests for people's use.

67. Statement I : Shifting cultivation was widely prevalent in different parts of India in the 19th century.
Statement II : More and more people took to shifting cultivation when forest laws were enacted.

68. Statement I : Cricket emerged as a colonial game.
Statement II : Cricket was started in England.

69. Statement I : Mahatma Gandhi wished everyone had clothes to wear.
Statement II : He wanted everyone to wear the single loin cloth as he did.

70. Statement I : The Spanish conquest of America was not a conventional military conquest.
Statement II : One of the most powerful weapon was the spread of smallpox.

71. Statement I : The silk routes led to trade and cultural links between distant parts of the world.
Statement II: Early Christian missionaries travelled to Asia through this route.

72. Statement I : The French used forced labour in Indo – China for building canals.
Statement II : Vietnam became a major exporter of rice in the world .

73. Match List I (Layers of Atmosphere) and List II (Characteristics) and select the correct answer using the code given below

	List I (Layers of Atmosphere)		List II (Characteristics)
A.	Ionosphere	I.	Contains Ozone
B.	Stratosphere	II.	Reflects radio Waves
C.	Exosphere	III.	Fall in Temperature
D.	Troposphere	IV.	Extremely low air density

(1) A – II, B – III, C – IV, D – I   (2) A – II, B – I, C – IV, D – III
(3) A – II, B – III, C – I, D – IV   (4) A – III, B – I, C – IV, D – II

74. Which of the following statements are correct?
I. Rann of Kachchh is formed by the recession of the sea
II. Kuchaman, Sambhar and Didwana are salt water lakes
III. The land to the east of Aravallis is known as Bagar
IV. The fertile flood plains formed by small streams in Rajasthan are known as Rohi
(1) I, II and IV   (2) I, III and IV
(3) II, III and IV   (4) I, II, III and IV

75. Observe the graph given below:

Growth of Population 1951-2011
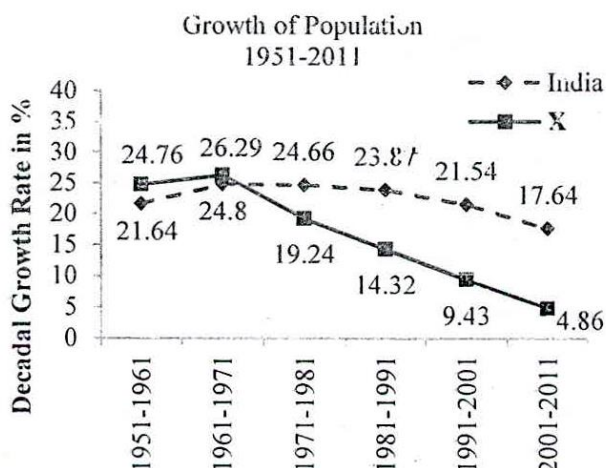
Identify the state with population growth rate marked by 'X'

(1) Goa (2) Kerala
(3) Sikkim (4) Nagaland

76. River Alaknanda forms confluences (Prayags) in Uttarkhand. Match the codes given in Figure with Table (Prayags) and select the correct answer using the code given below.

Figure	Table (Prayags)
	I. Karn Prayag
	II. Rudra Prayag
	III. Nand Prayag
	IV. Vishnu Prayag

(1) A – II, B – I, C – III, D – IV
(2) A – II, B – III, C – I, D – IV
(3) A – III, B – II, C – I, D – IV
(4) A – III, B – I, C – II, D – IV

77. Match List I (Original Rocks) with List II (Metramorphic Rock) and select the correct answer using the code given below:

	List I (Original Rock)		List II (Metamorphic Rock)
A.	Granite	I.	Diamond
B.	Coal	II.	Marble
C.	Limestone	III.	Slate
D.	Shale	IV.	Gneiss

(1) A – III, B – IV, C – II, D – I
(2) A – III, B – II, C – IV, D – I
(3) A – IV, B – II, C – I, D – III
(4) A – IV, B – I, C – II, D – III

78. Observe the given map.

Which one of the following statement is NOT true about the shaded state indicated on the map?
1. Society predominantly follows right of female ultimogeniture
2. The state is an example of areas with karst topography
3. The state is a major producer of potatoes in India
4. Some parts of the state receive extremely high rainfall.

79. Match List I (Mineral Oil Refineries with List II (States) and select the correct answer using the codes given below:

	List I (Mineral Oil Refineries)		List II (States)
A.	Numaligarh	I.	Punjab
B.	Bathinda	II.	Andhra Pradesh

C.	Tatipaka	III.	Madhya Pradesh
D.	Bina	IV.	Assam

(1) A – IV, B – II, C – III, D – I   (2) A – IV, B – I, C – II, D – III
(3) A – II, B – I, C – IV, D – III   (4) A – IV, B – III, C – II, D – I

80. 'Slash and Burn Agriculture' is known by specific name in different states of India. Match the shaded states marked in the given map with codes given in the Table (Different name of Slash and Burn Agriculture) and select the correct answer using the code given below.

(1) A–III, B–IV, C–II, D–I   (2) A–III, B–II, C–IV, D–I
(3) A–I, B–IV, C–II, D–III   (4) A–I, B–II, C–IV, D–III

81. Match List I (Industries) with List II (Important Centers) and select the correct answer using the codes given below.

List I		List II	
(Industries)		(Important Centers)	
A.	Cotton textile	I.	Ludhiana
B.	Hosiery	II.	Rishra
C.	Jute	III	Coimbatore
D	Silk textile	IV.	Mysuru

(1) A–I, B–III, C–IV, D–II   (2) A–IV, B–I, C–II, D–III
(3) A–III, B–II, C–I, D–IV   (4) A–III, B–I, C–II, D–IV

82. Which one of the following island is closest to the equator?
(1) Minicoy   (2) Car Nicobar
(3) Little Nicobar   (4) Great Nicobar

83. Which of the following characteristics are true about plantation agriculture?
I. Generally plantation agriculture is considered as an example of subsistence farming.
II. Generally single crop is grown on a large area in plantation agriculture.
III. It has an interface of agriculture and industry.
IV. It uses capital intensive inputs.
(I) I and IV   (2) III and IV
(3) I. II and III   (4) II, III, and IV

84. Match List-I (Vegetation zones) with List-II (Mean Annual Temperature Range) and select the correct answer using the code given below.

List I	List II
(Vegetation Zones)	(Mean Annual Temperature Range)

A.	Alpine	I.	Above 24°C
B.	Temperate	II.	17°C to 24°
C.	Tropical	III	Below 7°C
D	Sub-tropical	IV.	7°C to 17°C

(1) A–III, B–I, C–II, D–IV (2) A–III, B–I, C–IV, D–II
(3) A–III, B–IV, C–I, D–II (4) A–I, B–II, C–III, D–IV

85. 'In a democracy, the will of the people is supreme.' Which of the following statement concerning democracy in India best reflects this?
    (1) The President appoints the Prime Minister who is the leader of the political party possessing a majority in the Lok Sabha
    (2) An assembly of elected representatives exercises political authority on behalf of the people.
    (3) In case of a difference between the two Houses of Parliament, the final decision is taken in a joint session of the two Houses.
    (4) The permanent executive has more powers than the political executive.

86. Which of the following statements about the Panchayati Raj Institutions after the Constitutional Amendment in 1992 are false?
    I.   Seats are reserved for the Scheduled Castes, Scheduled Tribes, and Other Backward Classes in the elected bodies of the Panchayati Raj Institutions .
    II. Elections to the Panchayati Raj Institutions are supervised by the Election Commission of India
    III. Elections to the Panchayati Raj Institutions are held regularly after every five years.
    IV. Half of the seats in all the States are reserved for women.
    (1) I and III   (2) I and II
    (3) III and IV   (4) II and IV

87. Match List I (Political Systems) with List II (Nations) and select the answer using the codes given below.

List I (Political Systems)		List II (Nations)	
A.	Federal, Presidential, Republic	I.	India
B.	Federal, Parliamentary, Republic	II.	United Kingdom
C.	Unitary, Parliamentary, Monarchy	III	Germany
D	Presidential cum Parliamentary Republic	IV.	United States of America
		V.	France

(1) A–IV, B–I, C–II, D–V (2) A–IV, B–I, C–II, D–III
(3) A–V, B–IV, C–II, D–III (4) A–V, B–II, C–III, D–IV

88. Which of the following statements about the federal system in India are true?
    I.   The Constitution of India provides for a three-fold distribution of legislative powers between the Union and the State Governments.
    II. Both the Union and the State Governments can legislate on residuary subjects.
    III. The Parliament cannot on its own change the power-sharing arrangement between the Union and the State Governments.
    IV. The High Courts have no role in resolving disputes about the division of powers between the Union and the State Governments.
    (I) I and III   (2) II, III and IV
    (3) I. III and IV   (4) I, II and IV

89. Which of the following group of States/Union Territories have only one Lok Sabha constituency?
    (1) Arunachal Pradesh, Sikkim, Lakshadweep
    (2) Goa, Meghalaya, Andaman and Nicobar Islands
    (3) Chandigarh, Sikkim, Mizoram

(4) Manipur, Dadra and Nagar Haveli, Puducherry

90. Which of the following statements best reflects the 'socialist' feature of the Preamble to the Constitution of India?
(1) There are no unreasonable restrictions on how the citizens express their thoughts.
(2) The traditional social inequalities have to be abolished.
(3) Government should regulate the ownership of land and industry to reduce socio-economic inequalities.
(4) No one should treat a fellow citizen as inferior.

91. Which of the following statements about the Indian judiciary is true?
(1) India has an integrated judiciary.
(2) The judiciary in India is subordinate to the Executive.
(3) The Supreme Court is more powerful than parliament.
(4) The Chief Justice of India is appointed by the Prime Minister.

92. Which of the following Fundamental Rights includes the right to Education?
(1) Right to Equality   (2) Right to Freedom
(3) Cultural and Educational Rights (4) Right to Constitutional Remedies

93. Which of the Following is NOT an indicator of economic development?
(1) Increased per capita income
(2) Decreased infant mortality
(3) Increased life expectancy at birth
(4) Decreased women participation in job market.

94. The poverty line in Dinanagar is set at ₹100 per capita per day. Five Hundred people live in Dinanagar of whom 50 earn ₹30 per capita per day and another 25 earn ₹80 per capita per day each. Everybody else earn more than ₹100 per day per capita. What is the minimum amount that the government of Dinanagar will have to spend to completely eradicate poverty?
(1) ₹3000   (2) ₹3500
(3) ₹4000   (4) ₹4500

95. The local telephone company sells me a landline connection only if I purchase a handset from them as well. Which of the following rights does this practice violate under the Consumer Protection Act 1986?
(1) Right to represent   (2) Right to information
(3) Right to choose   (4) Right to seek redressal

96. Match List-I (Type of Unemployment) with List-II (Characteristics) and select the correct answer using the codes given below:

	List I (Type of Unemployment)		List II (Characteristics)
A.	Seasonal	I.	Occurs during boom or recession in the economy
B.	Frictional	II.	An absence of demand for a certain type of workers
C.	Disguised	III	Occurs when moving from one job to another
D.	Structural	IV.	Actual contribution by the additional labour is nil
E.	Cyclical	V.	Job opportunities during certain months in the year

(1) A–V, B–III, C–IV, D–II, E-I   (2) A–IV, B–V, C–III, D–I, E-II
(3) A–I, B–II, C–III, D–IV, E-V   (4) A–V, B–IV, C–III, D–II, E-I

97. Suppose Indian Farmers sell wheat at ₹50 per kg and the international price of wheat is ₹40 per kg. What is the minimum rate of import duty Government of India must impose on imported wheat so that it does not adversely affect Indian farmers in the domestic market?
(1) 10%
(2) 20%
(3) 25%
(4) 30%

98. The wage rate of a worker in a country is ₹300 per day. Which of these person(s) would you consider unemployed?
A. Ramu is willing to work at ₹300 a day, but cannot find work.
B. Suresh is willing to work only at ₹400 a day or more, and cannot find work.
C. Shanti stays at home because she has young children to look after.
(1) Ramu
(2) Suresh
(3) Ramu and Suresh
(4) Ramu and Shanti

99. Which of the following can be used as collateral in Indian banks to borrow money?
(1) Bank Passbook
(2) Credit Card
(3) Own House
(4) Passport

100. The total agricultural land in a village is 1200 hectares. This is distributed among 320 families who form four groups in the following pattern. It is assumed that the land is distributed equally within each group. Identify the group of small farmers.

Group	Number of Families	Total amount of land owned and operated by each group (in hectares)
A	100	300
B	180	300
C	30	300
D	10	300

(1) A
(2) B
(3) C
(4) D