Danish's Practice Papers

MCQ Questions (June - 2021)

New Pattern Question paper

Mathematics, Science, Social

Class - 10th Std **Code – 2106M01**

Time: 2 Hour 30 Mins Total Marks: 120

MATHEMATICS

1. If the common difference of an AP is 3, then $a_{20} - a_{15}$ is

(a) 5 **(b) 3**
(c) 15 **(d) 20**

2. In figure, QR is a common tangent to the given circles, touching externally at the point T. The tangent at T meets QR at P. If PT = 3.8 cm, then the length of QR (in cm) is [2014]

(a) 3.8 **(b)** 7.6
(c) 5.7 **(d) 1.9**

3. The coordinates of the point P dividing the line segment joining the points A(1, 3) and B(4, 6) in the ratio 2 : 1 are [2012

(a) (2, 4) **(b)** (3, 5)
(c) (4, 2) **(d)** (5, 3)

4. The radius (in cm) of the largest right circular cone that can be cut out from a cube of edge 4.2 cm is [2011]

(a) 4.2 **(b) 2.1**
(c) 8.4 **(d) 1.05**

5. A card is drawn from a well-shuffled deck of 52 playing cards. The probability that the card will not be an ace is [2011]

(a) $\frac{1}{13}$ **(b)** $\frac{1}{4}$
(c) $\frac{12}{13}$ **(d)** $\frac{3}{4}$

6. In the following numbers irrational numbers is

(a) $\frac{\sqrt{16}}{\sqrt{9}}$ **(b)** $\frac{3}{4}$
(c) 0.333…… **(d)** $2 + \sqrt{3}$

7. If sin A = $\frac{1}{\sqrt{2}}$, the magnitude of $\angle A$ is

(a) 90° **(b)** 60°
(c) 30° **(d)** 45°

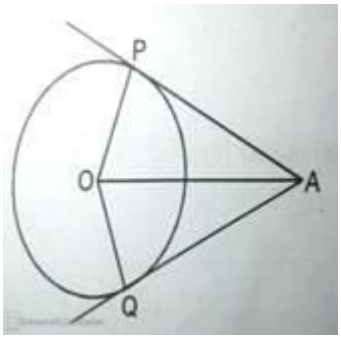
8. If one of the zeroes of the polynomial $p(x) + x^2 - x + k$ is 2 then the value of k is

(a) 2 **(b)** -2
(c) -6 **(d)** 6

9. Write the 'Discrimant' of the quadratic equation $ax^2 + bx + c = 0$

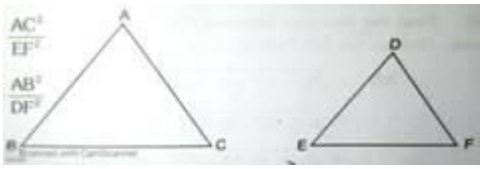
(a) b^2-4ac **(b)** A^2-2ac
(c) C^2+4ac **(d)** D^2-4ac

10. In this figure AP and AQ are tangents. If $\angle PAQ = 20°$ then $\angle POQ$ is



(a) 40° **(b)** 180°
(c) 90° **(d)** 160°

11. In this figure ΔABC ~ ΔDEF. Then which one of the following ratios is correct?



s

(a) $\frac{\Delta ABC}{\Delta DEF} = \frac{AB^2}{EF^2}$

(b) $\frac{\Delta ABC}{\Delta DEF} = \frac{AC^2}{EF^2}$

(c) $\frac{\Delta ABC}{\Delta DEF} = \frac{BC^2}{EF^2}$

(d) $\frac{\Delta ABC}{\Delta DEF} = \frac{AB^2}{DF^2}$

12. $X^2 + \frac{2}{x} + 5$ is a

(a) quadratic polynomial **(b)** Cubic polynomial
(c) Linear polynomial **(d)** not a polynomial

13. The formula for the sum of the first 'n' natural numbers is

(a) $\frac{n}{2}$ (b) $\frac{2n}{2}$
(c) $\frac{n(n+1)}{2}$ (d) $\frac{n(n+1}{2n}$

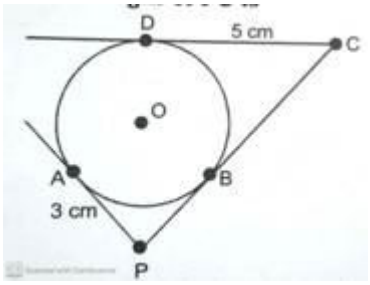
14. The distance between origin and the point $P(x_1y_1)$is

(a) $\sqrt{x^2{}_1 + y^2{}_1}$ (b) $\sqrt{x^2{}_1 - y^2{}_1}$
(c) $\sqrt{x^2{}_1 / y^2{}_1}$ (d) $\sqrt{x^2{}_1 \div y^2{}_1}$

15. The value of a cos 48 ▫ - sin 42 ▫ is

(a) 0 (b) $\frac{1}{4}$
(c) $\frac{1}{2}$ (d) 1

16. In the following figure, PA PC and CD are tangents drawn to a circle of centre O. If AP = 3 cm, CD = 5 cm, then the length of PC is



(a) 3cm **(b)** 5 cm
(c) 8 cm **(d)** 2 cm

17. The value of sin 30 ▫ + cos 60 ▫ is

(a) $\frac{1}{2}$ (b) $\frac{3}{2}$
(c) $\frac{1}{4}$ (d) 1

18. If the angles between the two tangents to a circles is 40 ▫ then the angle between the radii is

(a) **90 ▫** (b) **100 ▫**
(c) **140 ▫** (d) **180 ▫**

19. Conditions for roots of quadratic equations to be real and distinct is

(a) $b^2-4ac=0$ (b) $b^2-4ac<0$
(c) $b^2-4ac>0$ (d) $b^2+4ac>0$

20. A person continuously place 3 marbles in first box, 5 in second box, 7 in third box etc. The number of marbles that he place in sixteenth box is

(a) 66 **(b)** 35
(c) 13 **(d)** 33

21. In an A.P. the correct relation is

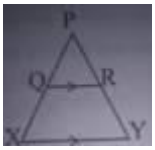
(a) $T_{n-5} = T_{n-4}$ + d (b) $T_{n-5} = T_{n-4}$ + d
(c) $T_{n-5} = T_n$ + d (d) $T_{n-5} = T_n$ - d

22. Which one of the following sequence is both A.P. and G.P.

(a) 1,2,3,4____ **(b) 2,4,8,16,32,_____**

(c) X,x,x,x,_____ **(d)** $\frac{x}{2}, \frac{x}{4}, \frac{x}{6}$, **_____**

23. PQR is a triangle XY||QR cutting PQ and PR produced at 'X' and 'Y'. If PQ= 4cms,PX=7.2cms, PR=3.5cms,then PY is



(a) 5.4cms **(b) 5.6cms**

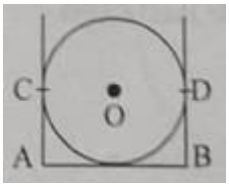
(c) 5.7cms **(d) 6.3cms**

24. The value of k for which the pair of linear equations 4x + 6Y - 1= 0 and 2x + ky -7 = 0 represents parallel lines is

(a) K=3 **(b) K=2**

(c) K=4 **(d) K= -2**

25. In the figure AB, AC and BD are the tangents as shown in the figure, If AB= 'a' cms BD='b'cms then AC =



(a) 'a' **cms** **(b)** 'b' **cms**

(c) (a-b) cms **(d) (a+b) cms**

26. If the sum of the areas of two circles with radii R_1 and R_2 is equal to the area of a circle of radius, R, then

(a) $R_1 + R_2$ = R. **(b)** $R^2_1 + R^2_2 = R^2$

(d) $R^2_1 + R^2_2$ <

(c) $R_1 + R_2$ <R R^2

27. Area of the largest triangle that can be inscribed in semi- circle of radius r units is

(a) r^2 **sq. units** **(b)** $\frac{1}{2} r^2$ **sq. units**

(c) $2r^2$ **sq. units** **(d)** $\sqrt{2r^2}$ sq. units

28. It is proposed to build a single circular park equal in area to the sum of areas of two circular parks of diameters 16m and 12m in a locality. The radius of the new park would be

(a) 10m. **(b) 15m.**

(c) 20m. **(d) 24m.**

29. The distance of the point (4,7) from the Y – axis is

(a) 4 **(b) 7**

(c) 11 **(d)** $\sqrt{65}$

30. Which of the following is a rational number ?

(a) $\sqrt{2}$ **(b)** $\sqrt{11}$

(c) $\sqrt{18}$ **(d)** $\sqrt{9}$

31. If x = 2^3 x3 x 5^2,y = 2^2 x 3^2, then HCF (x ,y) is:

(a) 12 **(b) 108**

(c) 6 **(d) 36**

32. $\sqrt{7}$ is a

(a) A natural number **(b) An integer**

(c) A rational number **(d) An irrational number.**

33. If one zeros of the polynomial $3x^2 - 10x - 3$ is $\frac{1}{3}$, **then the other zero is**

(a) 3 **(b) -3**

(c) 0 **(d) None of these**

34. The numerical difference of the roots of $x^2 - 7x - 9 = 0$ *is*

(a) 5 **(b) 7**

(c) $2\sqrt{85}$ **(d)** $\sqrt{85}$

35. $9\sec^2 A - 9\tan^2 A$ =

(a) 1 **(b) 9**

(c) 8 **(d) 0**

36. The ratio of the length of a pole and its shadows is 1 : $\sqrt{3}$. The angle of elevation of of the sun is :

(a) 90^0 **(b)** 60^0

(c) 30^0 **(d)** 45^0

37. If sun s elevation is 600 then a pole of height 6 m will cast a shadow of length .

(a) $6\sqrt{3}\,m$ **(b)** $\sqrt{3}\,m$

(c) $2\sqrt{3}\,m$ **(d)** $3\sqrt{2}\,m$

38. The probability of getting a number between 1 and 100 which is divisible by 7 is

(a) $\frac{11}{100}$ **(b)** $\frac{1}{7}$

(c) $\frac{7}{50}$ **(d)** $\frac{13}{00}$

39. Two dice are thrown simultaneously. Probility of getting a prime number on both dice is ;

(a) $\frac{5}{18}$ **(b)** $\frac{2}{9}$

(c) $\frac{1}{3}$ **(d)** $\frac{1}{4}$

40. The ratio of volume of a cone and a cylinder of equal diameter and equal height is

(a) 3:1 **(b) 1:3**

(c) 1:2 **(d) 2:1**

41. The volume of a sphere (in cu,cm) is equal to its surface area (insq.cm). The diameter of the sphere (in cm) is :

(a) 3 **(b) 6**

(c) 2 **(d) 4**

SCIENCE

42. A prism splity up a beam of white light into seven colours because ---------Is different colour

(a) Amplitude **(b) Speed**

(c) Enery **(d) none**

43. To determine the focal length of a convex lens by obtaining a sharp image of a distant object, the following steps were suggested which are not in proper sequence.

screen.

II. Adjust the position of the lens to form a sharp image.

III. Select a suitable distant object.

IV. Measure the distance between the lens and the screen.

The correct sequence of steps to determine the focal length of the lens is

[2011, 2012]

(a) III, I, II, IV **(b)** III, I, IV, II

(c) III, IV, II, I **(d)** , II, III, IV,I

44. **Refractive index of four medium A, B, C and D are 1.31, 1.65, 1.44 and 1.50 respectively. The velocity of light of is maximum in**

(a) Medium B **(b) Medium D**

(c) Medium C **(d) Medium A**

45. Urine produced in the human kidneys is temporarily stored in -

(a) Ureters **(b)** Urethra

(c) Urinary bladder **(d)** Glomerulus.

46. The device used for measuring potential difference is known as

(a) Potentiometer **(b)** Ammeter

(c) Galvanometer **(d)** Voltmeter

47. Which of the following pair of reactants can undergo displacement reaction under appropriate conditions?

(a) $MgSO_4$ + Fe **(b)** $ZnSO_4$ + Fe

(c) $MgSO_4$ + Fe **(d)** $CuSO_4$ + Fe

48. Which of the following represents the correct increasing order of unsaturation ?

(a) Alkanes, alkenes, alkynes **(b)** Alkanes, alkynes, alkenes

(c) Alkenes, alkynes, alkanes **(d)** Alkynes, alkanes,alkenest

49. The Harmone that controlees the rate of respiration in the human body is

(a) Thyroxin **(b)** Progesterone
(c) adrenaline **(d)** insulin

50. Select the correct statements for the process of budding in yeast:

I. A bud arises from a particular region on a parent body.

II. A parent cell divides into two daughter cells; here the parental identity is lost.

III. Before detaching from the parent body a bud may form another bud.

IV. A bud when detached from the parent body grows into a new individual

(a) II, III and IV **(b)** I, II and III
(c) III, IV and I **(d)** None of the above

51. The gap between two neurons is called a -

(a) Dendrite **(b)** Synapse
(c) Axon **(d)** Impulse.

52. **Main constituent of a biogas is**

(a) Methane **(b) Butane**
(c) Carbon dioxide **(d) Puuopane**

53. **Identify the right pair among the following:**

(a) Wing of bird and forelimb of a horse-Homologous organs
(b) Wing of a bat and forelimb of a squirrel-Analogous organs
(c) Wing of a bird and wing of a butterfly - Analogous organs
(d) Fin of a fish and wing of a bird – Analogous organs

54. In an experiment to study the properties of ethanoic acid, a student takes about 3 mL of ethanoic acid in a dry test tube. He adds an equal amount of distilled water to it and shakesthe test tube well. After some time he is likelyto observe that

(a) a colloid is formed in the test tube
(b) the ethanoic acid dissolves readily in water
(c) the solution becomes light orange
(d) water floats over the surface of ethanoic acid

55. **Out of the following pairs of compounds, the unsaturated compounds are**

(a) C_2H_6 and C_4H_6 **(b) C_6H_{12} and C_5H_{12}**
(c) $C4H_6$ and C_6H_{12} **(d) C_2H_6 and C_4H_{10}**

56. Which of the following eco friendly?

(a) Thermal power plant **(b)** Hydro power plant
(c) Biogas plant **(d)** Nuclear power station

57. UV radiation affect human beings by causing .

(a) Peptic ulcers
(b) Increased incidences of intestine cancer.
(c) Increased incidences of cataract in eyes
(d) Damage to kidneys

58. The major convergence of rays reaching the eyes is done by

(a) Cornea **(b) Eye lens**
(c) Vitreous humour **(d) Aqueous humour**

59. A solar cooker may not cook food if :

(a) the solar cooker is not placed in the shade
(b) the glass sheet cover of solar cooker is not closed
(c) a convex mirror reflector is not used
(d) the food containers of insulating materials are not used

60. The metal which is used in an electric bulb as a filament is

(a) Iron **(b)** copper
(c) aluminum **(d)** tungsten

61. A student was asked to observe and identify the various parts of an embryo of a red kidney bean seed. He identified the parts and listed them as under :

I. Tegmen

II. Testa

III. Cotyledon

IV. Radicle

V. Plumule [2015]

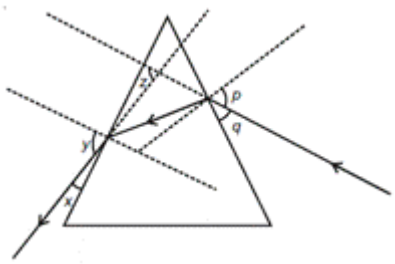
The correctly identified parts among these are :

(a) I, II and III **(b)** II, III and IV
(c) III, IV and V **(d)** I, III, IV and V

62. The famous movement that was started by women of Advani village in Tehri-Garbawal agains felling of trees

(a) Chipko movement **(b)** Appiko movement
(c) Bishnoi movement **(d)** Bahuguna movement,

63. Study the following ray diagram



In this diagram, the angle of incidence, the angle of emergence and the angle of deviation respectively have been represented by

[2017]

(a) y, p, z **(b)** x, q, z
(c) p, y, z **(d)** p, z, y

64. The aviation fuel which is used in the engines of jet aeroplanes is:

(a) diesel **(b)** kerosene
(c) petrol **(d)** CNG

65. After observing the prepared slides of binary fission in Amoeba and budding in yeast, the following observations were reported

a. Single cells of Amoeba and Yeast were undergoing binary fission and budding respectively.

b. Cytokinesis was observed in the Yeast cell.

c. Elongated nucleus was dividing to form two daughter nuclei in Amoeba.

d. A chain of buds were observed due to reproduction in Amoeba.

The correct observation(s) is/are

(a) d, a and c **(b)** c and d
(c) b only **(d)** a and c

66. In spirogyra, asexual reproduction takes place by -

(a) Breaking up of filaments into smaller bits. **(b)** Division of cell into many cells.
(c) Division of cell into two cells **(d)** Formation of young cells from older cells.

67. The brain is responsible for

(a) Thinking **(b)** Regulating the heart beat
(c) Balancing the body **(d)** All of the above.

68. On heating ferrous sulphate crystals, one would get

(a) a) sweet smell **(b)** b) rotten egg smell
(c) c) irritating choking smell **(d)** d) none of the above

69. The atomic numbers of four elements P, Q, R and S are 6, 10, 12 and 17 respectively. Which two elements combine to form a covalent compound?

(a) P and R **(b)** Q and S
(c) P and S **(d)** R and S

70. **The group of compounds which are in homologous series is,**

(a) CH_4, C_2H_4, C_2H_2 **(b)** CH_4, CH_3OH, HCHO
(c) CH_4, C_2H_6, C_3H_8 **(d)** C_2H_2, C_3H_6, C_4H_{10}

71. As fight from a far off star comes down towards the earth:

(a) it bends away from the normal
(b) it bends towards the normal
(c) it does not bend at all
(d) it is reflected back

72. Four students used different ways of burning magnesium ribbon during an experiment as shown below. The correct way has been followed by student

(a) a) I
(b) b) II
(c) c) III
(d) d) IV

73. According to New Cartesian Sign Convention :

(a) focal length of concave mirror is positive and that of convex mirror is negative.
(b) focal length of both concave and convex mirrors is positive.
(c) focal length of both concave and convex mirrors is negative.
(d) focal length of concave mirror is negative and that of convex mirror is positive.

74. The removal of oxygen from a substance is called:

(a) a) Oxidation
(b) b) corrosion
(c) c) reduction
(d) d) rancidity

75. **Which of the following metals do not react with cold as well as hot water?**

(a) Na
(b) Ca
(c) Mg
(d) Fe

76. Acetic acid reacts with solid sodium hydrogen carbonate.

(a) Slowly forming no gas
(b) Vigorously with effervescence
(c) Slowly without effervescence
(d) Vigorously without gas formation

77. The group of organisms that reproduce through fission only is

(a) Amoeba, Hydra, spyrogyra
(b) Leishmania, Ameoba, yeast
(c) Ameoba, Plasmodiu, Planaria
(d) Plasmodium, Ameoba, leishmania

78. Solar cells are made of :

(a) conductors
(b) insulators
(c) semi-conductors
(d) super-conductors

79. The day is looger on the earth by about 4 minutes because

(a) the earth is round in shape
(b) the earth rotates on its axis
(c) the earth revolves around the sun
(d) the earth has atmosphere

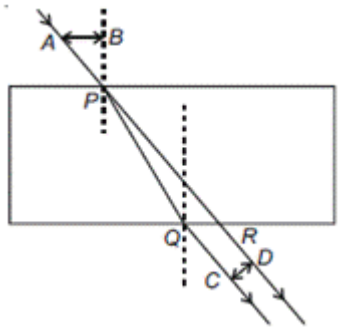
80. When the speed of the coil of generator is increased

(a) The induced emf decreases but frequency increases
(b) The induced emf increases but frequency decreased
(c) The induced emf increases and the frequency increases
(d) The induced emf decreases and the frequency decreases

81. For a ray of light passing through a glass slab,

the lateral displacement was correctly measured

as :



[2011]

(a) AB
(b) PQ
(c) CD
(d) PR

SOCIAL STUDIES

82. The president of Haripur session of Indian National Congress was

(a) Sardar Vallabhabai Patel
(b) Dr.B.R. Abdedkar
(c) Lala Lajapath Roy
(d) Subhas Chandra Bose

83. The viceroy who implemented the Bengal division was

(a) Lord cornwallis
(b) Dalhousie
(c) Lord Curzon
(d) Robert Clive

84. The earthquaqe zone which is called 'the zone of moderative intensity' is

(a) The Himalaya Zone
(b) The Peninsular Zone
(c) The Western Gujarat Zone
(d) The Indo-Gangetic Zone

85. Teleshopping means

(a) Trading from home itself
(b) Trading at International level
(c) Domestic Trade
(d) Retail trading

86. The Indian textiles could not be sold in England due to

(a) Heavy tariffs **(b)** Lack of transportation
(c) Heavy export **(d)** Poor quality

87. The tropical deciduous forests are found in annual rainfall is .

(a) 10 – 50 cm **(b)** 100-200cm
(c) 10-30cm **(d)** 200-250cm

88. The Construction of Damodar river project has resulted in

(a) Damodar as no more 'Sorrow of Bengal' **(b)** Increasing land slides
(c) Causing heavy earthquakes **(d)** Submerging many major industrial areas

89. I am an Organisation of the UNO. I sell greeting cards to generate funds to fund my activities. I am

(a) UNESCO **(b)** IMF
(c) FAO **(d)** UNICEF

90. Francisco-de-Almeida implemented the 'Blue Water Policy to

(a) Establish the supremacy over the land **(b)** Defeat the sultan of bijapur in Goa
(c) Establish the supremacy over the Sea **(d)** To make Goa the administrative Centre of Portuguese

91. The nagarjuna sagar project constructed across the river

(a) Krishna **(b) Tunga**
(c) Kaveri **(d) sharavathi**

92. The first Anglo Mysore war was ended by the treaty of

(a) Madras **(b)** Mangalore
(c) Srirangapatana **(d)** Salbai

93. The summer rainfall in west Bengal is called as

(a) Kalabaisakhi **(b)** Mango showers
(c) Coffee blossoms **(d)** Andhis

94. Which one of the following forests refer to the stilt like roots?

(a) Evergreen forests **(b)** Monsoon Forests
(c) Mangroove forest **(d)** Mountain Forests

95. The dictator of Italy was

(a) lenin **(b)** Stalin
(c) Hitler **(d)** Mussolin

96. The article which advocates international peace and co – operation

(a) Article 17 **(b)** Article21
(c) Article51 **(d)** Article24

97. The payment of gratuity act is passed in

(a) 1961 **(b)** 1986
(c) 1971 **(d)** 1980

98. The third Anglo Mysore war was ended by the treaty of

(a) Madras **(b)** Mangalore
(c) Srirangapatana **(d)** Salbai

99. In 1770 weak law and order situation arose due to .

(a) Plague **(b)** Severe drought
(c) Flood **(d)** poverty

100. The founder of Indian National Congress is _____

(a) Mahatma Gandhiji **(b) A.O.Hume**
(c) Balagandhar Tilak **(d) Gopal Krinshna Gokhale**

101. The word wagh means

(a) Lion **(b)** Tiger
(c) Brave **(d)** Courage

102. Black soil is suitable for growing cotton because

(a) It is sticky in Nature **(b)** It is formed by disintegration of volcanic rocks
(c) It has the capacity to retain moisture for a long period **(d)** It is rich in potash and nitrogen

103. The upper Krishna project is constructed across the river

(a) kaveri **(b)** Krishna
(c) kosi **(d)** Mahanadi

104. **Which one of the following is not a bank account?**

(a) Cummulative bank account **(b) Savings bank account**
(c) Term deposed account **(d) Current account**

105. Which concept of India was devoid and was scattered into various kingdoms .

(a) One religion concept **(b)** One administration concept
(c) One nation concept **(d)** One tax concept

106. The summer crops is also called as

(a) Kharif **(b)** Rabi
(c) Zaid **(d)** Baverage

107. The merchants who monopolized trade among European nations are

(a) Italian merchants **(b)** Arab merchjants
(c) French merchants **(d)** Indian merchants

108. The largest producer of wheat in India is

(a) Punjab **(b)** Andhra Pradesh
(c) Rajasthan **(d)** Uttar Pradesh

109. The policy implemented by Delhousie is

(a) Subsidiary alliance **(b)** Doctrine of lapse
(c) Inam commission **(d)** Ilbert bill

110. According to census of 2011, the poverty rate of India is

(a) 21.9% **(b)** 22%
(c) 29% **(d)** 50%

111. Supreme court was established under the

(a) Regulating act **(b)** Pitts India act
(c) Charter act 1813 **(d)** Charter act 1833

112. The subsidiary Alliance was introduced by

(a) Lord dalhousie **(b)** Lord canning
(c) Lord wellesley **(d)** Lord William bentinck

113. Bankers bank.

(a) Indian Bank **(b)** State bank of India
(c) Reserve Bank **(d)** Canara Bank

114. The best suitable soil for cashew crop is

(a) Black **(b)** Laterite
(c) Desert **(d)** Mountain

115. Which institution is trying to curb corruption

(a) Dr. D N Nanjundappa committee **(b)** Lokayuktha
(c) Mahila mandala **(d)** National literacy mission

116. The queen of England passed a declaration in

(a) 1857 **(b)** 1856
(c) 1856 **(d)** 1858

117. The article of Indian constitution that advocate the international peace Co-operation is

(a) Article 17 **(b)** Article 42
(c) Article 51 **(d)** Article 93

118. The 19^{th} century is referred as the period of

(a) Development **(b)** Reformation
(c) Dark age **(d)** Stagnant age

119. The law prohibiting female feticide was implemented in the year

(a) 2004 **(b) 1994**
(c) 2014 **(d) 1904**

120. The Mughal emperor who handed over the diwani rights to the British .

(a) Aurangazeb **(b)** Akbar
(c) Shah alam **(d)** Humayun