

DDPI OFFICE

DEPARTMENT OF PUBLIC INSTRUCTIONS, DAVANAGERE

District level, Multiple choice questions based,
SSLC home based preparatory practice paper 2020-21

Subject: Mathematics/Science/Social science

Medium: English

Date: 3/7/2021

Code no: 81E+83E+85E

Time: 3Hours

Total No. of questions: 40+40+40=120

Max. Marks: 40+40+40=120

Four choices are given for each of the following questions / incomplete statements. Choose the correct answer and shade the correct choice in the OMR given to you with blue/black ball point pen.

1. If a pair of linear equations $x+2y=3$ and $2x+4y=k$ are coincident, then the value of 'k' is -----
A) 3
B) 6
C) -3
D) -6
2. The values of 'x' and 'y', when a point lies on the linear equation $2x-4y=10$ -----
A) $x=0, y=2$
B) $x=1, y=4$
C) $x=-1, y=-2$
D) $x=1, y=-2$
3. Types of lines represented by the pair of linear equations $6x+2y-4=0$ and $2x+4y-12=0$ is -----
A) Intersecting
B) Perpendicular
C) Parallel
D) Coincident
4. On solving equations $x+y=6$ and $x-y=4$, the values of x and y will be
A) $x=1, y=5$
B) $x=2, y=4$
C) $x=4, y=2$
D) $x=5, y=1$
5. If 20, x+1, 4 are in AP, then the value of x is -----
A) 11
B) 12
C) 10
D) 14
6. The n^{th} term of an AP is $a_n=2n+1$, then the common difference is -----
A) 4
B) 1
C) 2
D) 3
7. If the first term of an AP is 'a' and the common difference is 'd', then the formula to find the sum of n terms of this AP is -----
A) $S_n = \frac{n}{2}[a-(n-1)d]$
B) $S_n = \frac{n}{2}[a+(n-1)d]$
C) $S_n = \frac{n}{2}[2a-(n-1)d]$
D) $S_n = \frac{n}{2}[2a+(n-1)d]$

8. The 20th term of an Arithmetic progression 2,7,12,17,..... is -----

- A) 97
B) 87
C) 77
D) 107

9. If the 10th and 14th terms of an AP are 25 and 37 respectively, then the common difference is -----

- A) 2
B) 3
C) 5
D) 6

10. The roots of the quadratic equation $3x^2-6x=0$ are -----

- A) 0 and -2
B) 3 and 6
C) 0 and 2
D) 0 and 6

11. The nature of the roots of the equation $2x^2-x-3=0$ is -----

- A) Roots are equal
B) Roots are real and distinct
C) No real roots
D) None of the above

12. The sum of the squares of two consecutive even numbers is 164. Its mathematical representation is -----

- A) $x^2+(x+1)^2=164$
B) $x^2+(x+2)^2=164$
C) $[x+(x+2)]^2=164$
D) $x^2+(2x)^2=164$

13. The roots of the quadratic equation $ax^2+bx+c=0$ are -----

- A) $x = \frac{-b \pm \sqrt{c^2 - 4ab}}{2a}$
B) $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
C) $x = \frac{-a \pm \sqrt{c^2 - 4ab}}{2}$
D) $x = \frac{-b \pm \sqrt{c^2 - 4ab}}{2}$

14. $\sin 2B = 2\sin B$ is true when B is equal to -----

- A) 90°
B) 60°
C) 30°
D) 0°

15. A ladder of 10m length touches a wall at a height of 5m. The angle θ made by it with the floor is -----

- A) 90°
B) 60°
C) 45°
D) 30°

16. If $\sin \alpha = \frac{1}{2}$ and $\cos \beta = \frac{1}{2}$ then $\alpha + \beta =$ -----

- A) 0°
B) 30°
C) 60°
D) 90°

17. $(\sec A + \tan A)(1 - \sin A) =$ -----

- A) $\sec A$
B) $\sin A$
C) $\operatorname{cosec} A$
D) $\cos A$

18. The correct relation in the following is -----

- A) $\sec^2 \theta - \tan^2 \theta = 1$
B) $\sin^2 \theta - \cos^2 \theta = 1$
C) $\sin(90^\circ - \theta) = \cot \theta$
D) $\cot^2 \theta = 1 + \operatorname{cosec}^2 \theta$

19. The distance between the points A(0,5) and B(-5,0) is -----

- A) 5 units
B) $2\sqrt{5}$ units
C) $5\sqrt{2}$ units
D) $\sqrt{10}$ units

20. If A(2,3), B(4,k) and C(6,-3) are collinear, then the value of 'k' is -----

- A) -1
B) 0
C) 1
D) 2

21. If the midpoint of the line joining the co-ordinates A(4,-3) and B(a,b) is the origin, then the values of 'a' and 'b' are -----

- A) 4 and -3
B) -4 and 3
C) -4 and -3
D) 4 and 3

22. The co-ordinates of the point which divides the line segment joining the points (x_1, y_1) and (x_2, y_2) internally in the ratio $m_1:m_2$ is --

- A) $\left(\frac{m_1x_2 + m_2x_1}{m_1 + m_2}, \frac{m_1y_2 + m_2y_1}{m_1 + m_2}\right)$ B) $\left(\frac{m_1x_2 - m_2x_1}{m_1 - m_2}, \frac{m_1y_2 - m_2y_1}{m_1 - m_2}\right)$
C) $\left(\frac{m_1x_2 + m_2x_1}{m_1 - m_2}, \frac{m_1y_2 + m_2y_1}{m_1 - m_2}\right)$ D) $\left(\frac{m_1x_2 - m_2x_1}{m_1 + m_2}, \frac{m_1y_2 - m_2y_1}{m_1 + m_2}\right)$

23. The modal class in the following frequency distribution is -----

C-I	10-20	20-30	30-40	40-50	50-60
f	7	12	18	14	4

- A) 20-30
B) 40-50
C) 30-40
D) 50-60

24. In the frequency distribution of grouped data, $\sum f_i x_i = 280$ and $\sum f_i = 20$, then its mean is -----

- A) 25
B) 22
C) 12
D) 14

25. If a certain group of data has its mean as 25 and mode as 10 then its median is -----

- A) 15
B) 20
C) 10
D) 35

26. If $\Delta ABC \sim \Delta DEF$, $BC = 3\text{cm}$, $EF = 4\text{cm}$ and area of $\Delta ABC = 54\text{cm}^2$, then the area of ΔDEF is -----

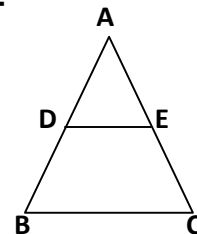
- A) 96cm^2
B) 86cm^2
C) 46cm^2
D) 66cm^2

27. In a right angled triangle ABC, if $\angle CAB = 90^\circ$, then the correct relation in the following is -----

- A) $BC^2 = AC^2 + AB^2$
B) $AC^2 = AB^2 + BC^2$
C) $AB^2 = BC^2 + AC^2$
D) $BC^2 = AB^2 - AC^2$

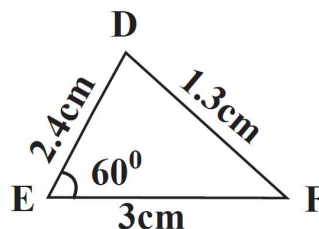
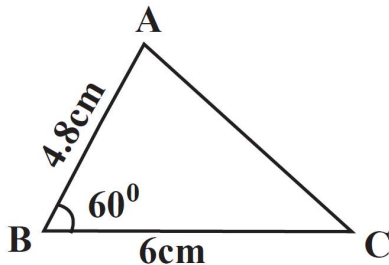
28. In the figure, $DE \parallel BC$, $AD:AB=1:2$ and $BC=6\text{cm}$, then DE is -----

- A) 1cm
 B) 2cm
 C) 3cm
 D) 4cm



29. In the given figure, $\Delta ABC \sim \Delta DEF$ and $\angle ABC = \angle DEF = 60^\circ$, then the length of AC is -----

- A) 2.4cm
 B) 2.6cm
 C) 3.9cm
 D) 3.2cm

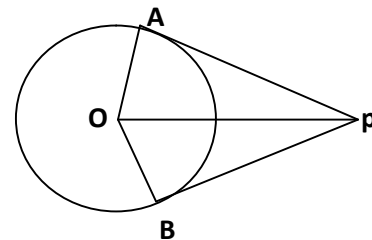


30. Sides of a triangle are of length 2cm, 3cm and 4cm respectively. The set of numbers which are similar to the given triangle is -----

- A) 4,5,6
 B) 5,6,7
 C) 12,13,14
 D) 6,9,12

31. In the figure, 'O' is the centre of the circle, PA and PB are tangents. If $\angle AOB = 100^\circ$, then the measure of $\angle APO$ is -----

- A) 90°
 B) 80°
 C) 50°
 D) 40°



32. The length of tangent drawn from an external point to a circle of radius 5cm is 12cm. Then the distance of external point to the centre of the circle is -----

- A) 7cm
 B) 17cm
 C) 13cm
 D) 14cm

33. The tangents drawn at the ends of a diameter of a circle are -----

- A) Parallel to each other
 B) Perpendicular to each other
 C) Intersects to each other
 D) Coincides to each other

34. To divide the line segment AB of length 7.6cm in the ratio 5:8, a ray AX is drawn first such that $\angle BAX$ forms an acute angle and then the points A_1, A_2, A_3, \dots are located at equal distance on the ray AX . The point B is joined to -----


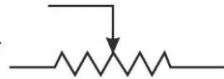


- A) A_5
 B) A_8
 C) A_{10}
 D) A_{13}

35. If two tangents with angles between them to be 60° are to be constructed from an external point, then the angle between the radii should be -----
- A) 60° B) 75°
C) 120° D) 90°
36. Two cubes with edges measuring 'a' units is placed one over the other. The total surface area of the solid is -----
- A) $12a^2$ sq. units B) $10a^2$ sq. units
C) $8a^2$ sq. units D) $6a^2$ sq. units
37. The formula to find the volume of frustum of a cone is -----
- A) $\frac{1}{3}\pi h(r_1^2+r_2^2+r_1r_2)$ B) $\frac{1}{3}\pi h(r_1+r_2+r_1r_2)$
C) $\frac{1}{3}\pi h(r_1+r_2+2r_1r_2)$ D) $\frac{1}{3}\pi h(r_1^2+r_2^2+2r_1r_2)$
38. A cylinder of volume 156cm^3 is melted to form three cones with equal base and height, then the volume of each cone is -----
- A) 78cm^3 B) 56cm^3
C) 52cm^3 D) 156cm^3
39. Number of lead balls of radius 2cm can be made from a ball of radius 4cm is -----
- A) 1 B) 2
C) 4 D) 8
40. A capsule is in the shape of a cylinder with hemisphere attached to both the base. The total surface area of the capsule is -----
- A) $2\pi r^2+2\pi rh$ B) $4\pi r^2+\pi r^2h$
C) $4\pi r^2+2\pi rh$ D) $\pi r^2+2\pi rh$

SUB-SCIENCE

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40 X 1 = 40

Physics

41. The magnetic field at the centre of a circular loop appears as
a) straight line b) curved line
c) concentric circle d) concentric ellipse
42. $H=I^2RT$ is the mathematical form/expression of
a) Ohm's law b) Faraday's law
c) Joule's law d) Fleming's law
43. The main component of biogas is
a) methane b) butane c) ethane d) pentane
44. When a 12V battery is connected across an unknown resistor there is a current of 6A in the circuit. The value of resistance of the resistor
a) 8Ω b) 4Ω c) 10Ω d) 2Ω
45. The lens which converges light rays is
a) convex lens b) concave lens c) plane mirror d) convex mirror
46. The magnification of the lens is the ratio of
a) v/u b) u/v c) h/h^I d) h^I/h
47. Which of the following is not a characteristic of good fuel.
a) reduced energy released per unit size b) easily available
c) safe to use d) lower price
48. The frequency of direct current is
a) 0 Hz b) 50 Hz c) 60 Hz d) 100 Hz
49. The symbol that indicates rheostat is
a)  b)  c)  d) 
50. The potential difference between the resistors is 6 volts when it drawn current off of 3Ω from the source. what is the current
a) 2A b) 6A c) 4 A d) 3A
51. The direction of the electric current at one end of the Electromagnet is clockwise, it ends faces towards
a) north pole b) east Pole c) south Pole d) west pole
52. The power of a lens is + 2.0 D then the lens is
a) concave lens b) convex lens
c) plane lens d) plano concave lens.

53. The unit of electric resistivity is
a) Ohm b) ohm meter c) volt d) ampere
54. The size of the image formed when an object is placed beyond $2F_1$ of convex lens is
a) diminished b) enlarged
c) same size d) highly enlarged

Chemistry

55. The gas liberated when concentrated sulphuric acid reacts with zinc granules
a) chlorine b) oxygen c) nitrogen d) hydrogen
56. Tooth decay starts when the pH of the mouth is below
a) 5.5 b) 5.9 c) 7.0 d) 7.5
57. If the solution turns red litmus to blue then the pH of the solution is
a) 10 b) 6.5 c) 5.5 d) 2
58. The lustrous nonmetal is
a) sodium b) oxygen c) potassium d) iodine
59. The chemical formula of cinnabar, the ore of mercury is
a) HgO b) HgS c) Hg d) 2HgO
60. Food cans are coated with tin and not with zinc because
a) zinc is costlier than tin b) zinc has a higher melting point than tin
c) zinc is more reactive than tin d) zinc is less reactive than tin
61. The bond formed between two carbon atoms in a compound is
a) ionic bond b) hydrogen bond
c) covalent bond d) metallic Bond
62. Which of the following is a saturated carbon compound?
a) C_2H_6 b) C_2H_4 c) C_3H_6 d) C_4H_6
63. Observe the steps involved in the extraction of metals from ore
Carbonate ore \longrightarrow Reduction to metals \longrightarrow Purification of metal
fill in the blank with the correct step
a) electrolysis b) roasting
c) refining d) calcination
64. The functional group present in propanal is
a) -CHO b) -COOH c) -CO d) -OH
65. The soap is the sodium salt of long chain carboxylic acids whose hydrophilic end is
a) hydrocarbon tip b) carboxylic tip
c) sodium ion tip d) sulphonic acid tip
66. The scientist who proposed the law of octaves is
a) Dobereiner b) Newland
c) Mendeleev d) Henry Moseley

67. In the modern periodic table the elements He, Ne, Ar, Kr are placed in which group
a) 1st group b) 2nd group c) 8th group d) 18th group

68. In the modern periodic table along the period moving from left to right the atomic radius
a) increases b) decreases c) does not increase d) no change

Biology

69. Which hormone is called as Personality hormone
a) adrenaline b) insulin c) thyroxin d) glucagon

70. The pure blood from the lungs first enters this part of the heart
a) the left Atrium b) right Atrium c) left ventricle d) right ventricle

71. The part of the hind brain that is responsible for maintaining the posture and balance of the body is
a) medulla b) pons c) cerebrum d) cerebellum

72. The plant hormone that inhibits plant growth is
a) auxin b) gibberellin c) cytokinin d) abscisic acid

73. Now a days we are seeing heavy garbage waste. This is because
a) change in the lifestyle b) changed packaging methods
c) over use of disposal waste d) all of the above

74. The element responsible for depletion of Ozone is
a) Chlorine b) Florine
c) carbon d) nitrogen

75. The traditional method of sustainable management of natural resources is
a) water harvesting b) use of fossil fuel
c) cut down establishment of industries d) all of the above

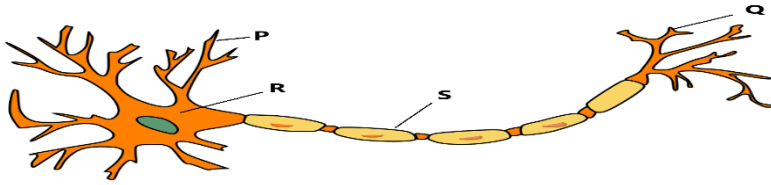
76. The structure that facilitates the passage of glucose and oxygen from mother to foetus
a) fallopian tube b) ovary
c) placenta d) uterus

77. An example of analogous organs is
a) cow's tail and dogs fore leg
b) the wing of a bat and the wing of a bird
c) the fore leg of birds and the fore leg of whale
d) the ear of monkeys and the ear of dogs

78. The structural and functional unit of kidneys is
a) neuron b) nephron c) bowman's capsule d) axon

79. In monohybrid cross the ratio of the tall and dwarf plants is
a) 1:2:1 b) 3:1 c) 1:3 d) 2:1

80. The correct pathway of nerve impulse in the diagram



a) $Q \rightarrow S \rightarrow R \rightarrow P$

b) $P \rightarrow Q \rightarrow R \rightarrow S$

c) $P \rightarrow R \rightarrow S \rightarrow Q$

d) $S \rightarrow R \rightarrow Q \rightarrow P$

Department of Public Education Davanagere Davanagere District
Class :10th Home based Preparatory Exam Question paper
Sub : Social Science Marks: 40

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Four choices are given for each of the questions/incomplete statements. Choose the correct answer and shade the correct choice in the OMR given to you with blue / black ball point pen. 40x1=40

- 81. The Dual Government was introduced in Bengal by**
A. Alfanso Albuquerque B. Robert Clive C. Dupleix D. Francisco Almeida
- 82. The first Anglo-Maratha war was ended with the treaty of**
A. Sulbai B. Bassein C. Madras D. Lahore
- 83. A 'Dewani Aadalat' as a civil court was established by**
A. Warren Hastings B. Lord Cornwallis C. Lord Dalhousie D. William Bentinck
- 84. The second Anglo-Mysore war was ended with the treaty of**
A. Mangalore B. Srirangapatna C. Madras D. Salbai
- 85. The famous book of Mahatma Jyothiba Phule is**
A. Samvada Komudi B. New India C. Gulamgiri D. Satyartha Prakasha
- 86. The founder of the Prarthana Samaj was**
A. Dayananda saraswathi B. Dr. Athmaram Panduranga
C. Raja Ram Mohan Roy D. Mahatma Jyothiba Phule
- 87. Lakshmi Bai captured----- from the British during the revolt.**
A. Merut B. Kanpur C. Gwalior D. Lucknow
- 88. To curb the independence of the independent press, vernacular press act was implemented by**
A. Lord Litton B. Lord Curzon C. Lord Rippon D. Lord Dalhousie
- 89. The founder of Indian National Congress was**
A. Mahatma Gandhiji B. Bala Gangadhara Tilak C. A.O.Hume D. Gopala Krishna Gokhale
- 90. The movement started by Ali brothers was**
A. Khilapat Movement B. Non- cooperative movement
C. Civil disobedience movement D. Quit India Movement
- 91. Mahad Tank and kalaram temple Movements were organized by**
A. Mahatma Gandhiji B. Ambedkar C. Subhas Chandra Bose D. Nehru
- 92. The commander of Jhansi regiment, a women's wing of INA was**
A. Captain Lakshmi Sehagal B. Annie Besant
C. Kamala Nehru D. Sarojini Naidu

- 93. The first state which formed on the basis of language was**
A. Andhra Pradesh B. Tamilnadu C. Karnataka D. Maharashtra
- 94. The recent implementation of CC cameras in government offices is a remedy for the following problem.**
A. Corruption B. Unemployment C. Poverty D. Communalism
- 95. Panchasheela Treaty was signed between.**
A. India- Pakistan B. India- Srilanka C. India- China D. India – America
- 96. Russia had supported the -----Agreement between India and Pakistan in 1966.**
A. Tashkent B. Amritsar C. Shimla D. Lahore
- 97. Human Rights Day celebrated on**
A. December 8 B. December 10 C. June 5 D. November 10
- 98. This institution is like the cabinet of UNO**
A. General Assembly B. Security Council C. Trusteeship Committee D. Secretariat
- 99. The Supreme Court of India in its judgment in the case of Unni Krishnana Vs Andhra Pradesh clearly said that**
A. Untouchability is a Criminal offence B. Education is the Fundamental Right
C. Gender discrimination is a criminal offence D. Protect of the cultural rights of the Minorities
- 100. The book ‘The Republic’ was written by**
A. Aristotle B. Plato C. Karl Marx D. August Comte
- 101. Under the leadership of Shivaram Karanth this movement took place.**
A. Narmada bachavo Andolana B. Silent Valley Movement
C. Chipko Movement D. Movement opposing Kaiga nuclear power plant
- 102. Child Marriage prohibition act come into effect in the year**
A. 1986 B. 1994 C. 2006 D. 2012
- 103. The highest peak in India is**
A. Mount Everest B. Mount Godwin Austin C. Kanchana Ganga D. Dhavala Giri
- 104. Convectional rain occurs locally in some parts of the country. This rain called in West Bengal as**
A. Kalabaisakhis B. Mango Showers C. Coffee blossom D. Andhis
- 105. The soil which derived from the basalt rocks is**
A. Alluvial Soil B. Black Soil C. Red Soil D. Laterite Soil
- 106. A number of stilt-like roots are the major features of these forests.**
A. The tropical evergreen forests B. The tropical deciduous forests
C. Mangrove forests D. Mountain forests
- 107. Identify the correct pair of east flowing rivers in South India.**
A. Ganga, Sharavathi, Krishna, Kaveri B. Mahanadi, Godavari, Krishna, Kaveri
C. Kali, Godavari, Krishna, Netravathi D. Mahanadi, Sindhu, Krishna, Brahmaputra

- 108. The crops are grown in between the Kharif and the Rabi crops are known as**
A. Cropping Pattern B. Rabi crop season C. Zaid crop season D. Kharif crop season
- 109. This port is called “the Queen of the Arabian Sea”.**
A. Kochi B. Kandla C. Chennai D. Ennore
- 110. One of the following is forest based industry in India.**
A. Iron and Steel Industry B. Cotton textile Industry C. Paper Industry D. Aluminium Industry
- 111. Which of the following activity that causes coastal erosion.**
A. The South –West Monsoon B. Tropical Cyclones
C. Tsunamis D. Removal sand and construction break water.
- 112. The newspaper Bombay Samachar was started in**
A. 1822 B. 1922 C. 1936 D. 1959
- 113. Manchester of India.**
A. Bangalor B. Kolkata C. Mumbai D. Surat
- 114. The total value of goods and services produced in a country during one year is....**
A. National Income B. Human development index C. Per capita income D. Positive changes
- 115. Ashraya Yojana was implemented to provide**
A. Employment for unemployed people B. Shelter for the shelterless people
C. Agricultural Land for landless people D. Schools for illiterates
- 116. To organize rural poor women and make them financially independent ----- have been created.**
A. Gram Panchayat B. Women Self Help Groups C. Post Offices D. Cottage Industry
- 117. The bank which known as Bankers Bank is**
A. State bank of Mysore B. State bank of India C. Reserve Bank of India D. Cooperative bank
- 118. This type of account is opened for a fixed period by depositing a particular sum of money.**
A. Savings Bank Account B. Current Account
C. Recurring Deposit Account D. Fixed Deposit Account
- 119. Who is regarded as the king of market.**
A. Provider B. Agent C. Producer D. Customer
- 120. Every year ‘World Consumer day’ celebrated on**
A. January 15 B. February 15 C. March 15 D. April 15