
OFFICE OF THE DEPUTY DIRECTOR OF PUBLIC INSTRUCTION, DHARWAD

Multiple Choice Questions Based Preparatory Examination Paper-1
చలిశా సైకు/Kalika Setu-3
ఎిజయ: గణిత + విజ్ణాన్ + శమూజ విజ్ణాస్
Subject: Mathematics + Science + Social Science
పూధ్యపు/Medium: English
సెముయ: 3 గంఆఆં.
Time: 3 Hours
ఒట్ట్రె జ్ర్ల్నైగళ సంఖ్య: $40+40+40=120$
గరిష్మ్రృ అంచగళు: $40+40+40=120$
Total No. of Questions: $\mathbf{4 0}+\mathbf{4 0}+\mathbf{4 0}=\mathbf{1 2 0}$
Max.Marks: $40+\mathbf{4 0}+\mathbf{4 0}=120$

## గణణొత / Mathematics

 అపుగళల్లి శరయయాద లుత్తరజన్ను ఆరిస నిముగి నిలఱరుజ లుత్తర జ్ర్రిళ ఓ.ఐం.ఆరా. (O.M.R.)
 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.
$40 \times 1=40$

1. The lines joining the equations $2 x+3 y-9=0 \& 4 x+6 y-18=0$ are
A. Intersecting lines
B. Perpendicular to each other
C. Parallel lines
D. Coincident lines
2. Condition for lines representing the equitions $a_{1} x+b_{1} y+c_{1}=0 \&$ $\mathbf{a}_{2} x+b_{2} y+c_{2}=0$ to be parallel is
A. $\frac{a 1}{a 2} \neq \frac{b 1}{b 2}$
B. $\frac{a 1}{a 2}=\frac{b 1}{b 2}$
C. $\frac{a 1}{a 2}=\frac{b 1}{b 2} \neq \frac{c 1}{c 2}$
D. $\frac{a 1}{a 2} \neq \frac{b 1}{b 2} \neq \frac{c 1}{c 2}$
3. The pair of equation $x=-4$ and $y=-5$ graphically represents lines which are
A. intersecting at $(-5,-4)$
B. intersecting at $(-4,-5)$
C. intersecting at $(5,4)$
D. intersecting at $(4,5)$
4. To divide a line segment AB in the ratio 3:4, first, a ray $\mathbf{A X}$ is drawn so that $\angle B A X$ is an acute angle and then at equal distances points are marked on the ray AX such that the minimum number of these points is:
A. 5
B. 7
C. 9
D. 11
5. $25^{\text {th }}$ term of an arithmetic progression is $51 . \&$ first term $a=3$ common difference
A. 2
B. 3
C. 4
D. 5
6. In an arithmetic progression if $a_{n}=4 n-5$, then find the second term $a_{2}$ of the progression.---
A. 1
B. 2
C. 3
D. 4
7. Sum Of First ' n 'Terms Of An AP are-----
A. $\frac{n}{2}[a+(n-1) d]$
B. $\frac{n}{2}[2 a+(n-1) d]$
C. $\frac{n}{2}[a+(n-1) d]$
D. $\frac{n}{2}[2 a+(n+1) d]$

8 Next two terms if an AP 5,7.9 ---
A. 10,11
B. 11,13
C. 13,11
D. 13,15

9 The value of $\Sigma 18+\sum 19$ is
A. 351
B. 361
C. 531
D. 631
10. The nature of the roots of the equation $a x^{2}+b x+c=0$ is decided by
A. $b^{2}-4 a c$
B. $b^{2}+4 a c$
C. $\frac{b^{2}}{2 a}$
D. $b-4 a c$
11. The standard form of the equation $2 x=5-x^{2}$ is
A. $2 x-5+x^{2}=0$
B. $x^{2}+2 x-5=0$
C. $x^{2}-2 x+5=0$
D. $2 x-5-x^{2}=0$
12. The roots of the quadratic equation $x^{2}-x-6=0$ are
A. 3,2
B. $-3,-2$
C. $3,-2$
D. $-3,2$
13. Formula to find the roots of the quadratic equation $a x^{2}+b x+c=0$
A. $\mathrm{X}=\frac{-b \pm \sqrt{b^{2}+4 a c}}{2 a}$
B. $\mathrm{X}=\frac{b \pm \sqrt{b^{2}+4 a c}}{2 a}$
C. $\mathrm{x}=\frac{-b \pm \sqrt{b^{2}-4 a c}}{2 a}$
D. $\mathrm{x}=\frac{-b \pm \sqrt{b^{2}-4 a c}}{a}$
14. In given figure, the value of $\angle \mathrm{C}$ is
A. $90^{\circ}$
B. $60^{\circ}$
C. $30^{\circ}$
D. $45^{\circ}$
15. In figure given ABCD is a rectangle, the value of CE is
A. 16
B. 2
C. 3
D. 4

16 Find the value of $A$ in $\operatorname{Sin} 2 A=\operatorname{Cos}\left(A-30^{\circ}\right)$

A. $30^{0}$
B. $\mathbf{4 5}^{\mathbf{0}}$
C. $60^{0}$
D. $40^{0}$
17. The Value Of $\operatorname{Cos}(90-\mathrm{A})$ is
A. $\sin A$
B. $\cos \boldsymbol{A}$
C. $\tan A$
D. $\sec A$
18. When the length of shadow of a vertical pole is equal to $\sqrt{3}$ times of its height, the angle of elevation of the Sun's altitude is
A. $15^{0}$
B. $30^{\circ}$
C. $45^{0}$
D. $60^{\circ}$
19. The distance between the point $P(1,4)$ and $Q(4,0)$ is
A. 3
B. 4
C. 5
D. $3 \sqrt{3}$
20. The area of the triangle $A B C$ with the vertices $A(-5,7), B(-4,-5)$ and $C(4,5)$ is
A. 35
B. 53
C. 63
D. 36
21. The distance of the point $P(2,3)$ from the $x$-axis is
A. 1
B. 2
C. 3
D. 5
22. The distance of a point $P(x, y)$ from the origin
A. $\sqrt{x^{2}+y^{2}}$
B. $\sqrt{x^{2}-y^{2}}$
C. $\sqrt{\left(x_{2}-x_{1}\right)^{2}+\left(y_{2}-y_{1}\right)^{2}}$
D. none of these

23 Releation between mean,median \&mode
A. 3 median=Mode +2 mean
B. median=3Mode+2mean
C. 3 median=Mode- 2 mean
D. mean= mode + median
24. $10,13,5,15,5,20,5$ mode of these---
A 5
B 10
C 13
D 15
25. Median class of the given table is
A $\mathbf{0 - 1 0}$
B $\quad 10-20$
C $\quad \mathbf{2 0}-30$
D $\quad 30-40$

| Cl | Frequency |
| :--- | :--- |
| $0-10$ | 5 |
| $10-20$ | 18 |
| $20-30$ | 12 |
| $30-40$ | 9 |

26. Following which types of triangles are always similar
A Right angled triangles
B Equiangular triangles
C Scalene triangles
D Isosceles triangles
27. In the fig $\mathrm{DE} \| \mathrm{BC}, \mathrm{AD}=2.4 \mathrm{~cm}, \mathrm{BD}=7.2 \mathrm{~cm}, \mathrm{AE}=1.8 \mathrm{~cm}$ then length of AC is
A 5.4 cm
B $\quad 9.6 \mathrm{~cm}$
C 7.2 cm
D 8 cm

28. In the given figure $\triangle \mathrm{ABC} \sim \triangle \mathrm{DEF} \& \angle \mathrm{ABC}=\angle \mathrm{FED}=80^{\circ}$ then the measure of $\angle D$ Is
A $40^{\circ}$
B $60^{0}$
C $80^{\circ}$
D $140^{\circ}$

29. In the given figure $L A B C=90^{\circ}, B D \perp A C, A B=12 \mathrm{~cm}, B C=9 \mathrm{~cm}, \quad C A=15 \mathrm{~cm}$ then the length of $A D$ is
A 3.6
B 6.3
C 6.6
D 9.6
30. Which of the following is not a Pythagorean triplet?

A 6,8.10
B 7.24,25
C $7,8,9$
D $9,12,15$
31. From the figure, find the length of $P Q$
A $2 \mathbf{c m}$
B 4 cm
C 6 cm
D 8 cm

32. From the figure, if $\angle \mathrm{OBC}=40^{\circ}$ then $\angle \mathrm{AOC}=$ $\qquad$
A $50^{0}$
B $80^{\mathbf{0}}$
C $100^{0}$
D $\mathbf{1 4 0}^{\boldsymbol{0}}$

33. If the straight line passes through the circle at only one point, the line is
A Secant
B Radius
C Diameter
D Tangent
34. To divide a line segment $A B$ in the ratio 4:7, a ray $A X$ is drawn first such that $\angle B A X$ is an acute angle and then points $A_{1}, A_{2}, A_{3}, \ldots$. are located at equal distances on the ray $A X$ and the point $B$ is joined to
A $\mathrm{A}_{12}$
B $A_{11}$
C $\mathrm{A}_{10}$
D $\mathbf{A}_{9}$
35. A vertical stick of length 6 m casts a shadow 400 cm long on the ground and at the same time a tower casts a shadow 28 m long. The height of the tower is.
A ${ }_{7}^{6} m$
B $\frac{56}{3} m$
C $42 m$
D 28 m
36. The shape of an ice-cream cone is a combination of:

A Sphere+cylinder
B Sphere+cone
C Hemisphere+cylinder
D Hemisphere+cone
37. If we cut a cone in two parts by a plane parallel to the base, then the bottom part left over is the
A Cone
B Cube
C a cylinder
D Frustum of cone
38. If we change the shape of solid object from a sphere to a cylinder, then the volume of cylinder will be,
A Increase
B Decrease
C Remains unchanged
D Doubles
39. If we join two hemispheres of same radius along their bases, then we get a;
A Acone
B frustum of a cone
C a cylinder
D Sphere

40 - The shape of a glass (tumbler) (see Fig.) is usually in the form of
A A cone
B frustum of a cone
C a cylinder
D a sphere


## SCIENCE

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.
$40 \times 1=40$
41. The product formed after the reaction of acid with base is
A. Metal Oxide
B. Non metal oxide
C. Salt
D. Hydrogen ion
42. pH value of a solution is 12 . It means that solution contains
A. More $\mathrm{H}^{+}$ions than $\mathrm{OH}^{-}$ions
B. Less $\mathbf{H}^{+}$ions than $\mathrm{OH}^{-}$ions
C. Number of $\mathbf{H}^{+} \& \mathbf{O H}$ ions is equal
D. Less Basisity
43. Metal oxides are also called as Basic oxides. Because they
A. Reacts with water to form salt
B. Reacts with base to form salt
C. Reacts with both acid and base
D. Reacts with water
44. This electronic dot structure represents the following ionic compound

A. Magnesium chloride
B. Magnesium bromide
C. Magnesium carbonate
D. Sodium chloride
45. The reducing agent used to extract metal from metal oxide is
A. Oxygen
B. Nitrogen
C. Silicon
D. Carbon
46. The process of applying a protective zinc coating to iron or steel, to prevent rusting is
A. Anodization
B. Galvanization
C. Ionization
D. Naturalization
47. The organ in this diagram related to the organ system

A. Digestive System
B. Nervous System
C. Excretory System
D. Reproductive System
48. The physical quantity to translocate the substances in phloem tissue
A. Velocity
B. Speed
C. Heat
D. Energy
49. Reflex action controlling part of the nervous system
A. Spinal cord
B. Brain
C. Neuron
D. Nerve
50. Movement of plant root towards the Earth
A. Thigmotropism
B. Geotropism
C. Phototropism
D. Chemotropism
51. Iodine required hormone
A. Insulin
B. Adrenalin
C. Testosterone
D. Thyroxin
52. Conductor without voltage difference
A. Allows electric current
B. Couldn't allow electric current
C. Allows more electric current
D. Allows less amount of electric current
53. The unit to measure electric current
A. Volt
B. Watt
C. Ampere
D. Ohm
54. What is the amount of electric current that can flow through a conductor with $10 \Omega$ resistivity and 110 V voltage?
A. 110 A
B. 0.9A
C. 1110A
D. 11A
55. The depending factors of resistance of a conductor are
$A$. Area of the conductor
B. Length of a conductor
C. Both A \& B
D. None of the above
56. The resultant resistance of a circuit where $10 \Omega, 20 \Omega, 30 \Omega \& 40 \Omega$ resistors are connected in series and parallel respectively
A. $100 \Omega \& 4.8 \Omega$
B. $100 \Omega \& 4 \Omega$
C. $100 \Omega \& 5.8 \Omega$
D. $5 \Omega \& 100 \Omega$
57. The law used to indicate the presence of magnetic lines of force around a current flowing conductor
A. Fleming's right hand rule
B. Fleming's left hand rule
C. Right hand thumb rule
D. Faraday's law
58. The direction of magnetic lines of force within a bar magnet
A. South to North
B. North to South
C. West to East
D. East to West
59. The work principle of a device used in electro motive toy car
A. Fleming's right hand rule
B. Fleming's left hand rule
C. Right hand thumb rule
D. Faraday's law
60. Molecular formula of Ozone
A. [O]
B. $\mathrm{O}_{2}$
C. $\mathrm{O}_{3}$
D. CFC
61. The difference between $\mathrm{CH}_{4} \& \mathrm{C}_{3} \mathrm{H}_{8}$
A. $\mathrm{CH}_{2}$
B. $\mathrm{CH}_{4}$
C. $\mathrm{C}_{2} \mathrm{H}_{4}$
D. $\mathrm{C}_{2} \mathrm{H}_{2}$
62. This part of soap molecule reacts with oil/dirt
A. Ionic end
B. Whole molecule
C. Hydrocarbon end
D. Ionic \& Hydrocarbon end
63. The process of combination of chlorine molecule with hydrocarbon in presence of sun light
A. Addition Reaction
B. Substitution Reaction
C. Esterification
D. Emulsification
64. The functional group in this molecular formula

A. Aldehyde
B. Alcohol
C. Ketone
D. Carboxylic group
65. The position of Aluminium in Modern periodic table

|  | Series | Group | Block |
| :---: | :---: | :---: | :---: |
| A | 3 | 13 | p |
| B | 2 | 2 | s |
| C | 2 | 13 | p |
| D | 3 | 3 | s |

66. $\mathrm{K}, \mathrm{Na}, \mathrm{H}, \mathrm{Mg}, \mathrm{Ca}$ - when these are written in increasing order of their atomic size/atomic radius
A. $\mathrm{Ca}>\mathrm{K}>\mathrm{Mg}>\mathrm{Na}>\mathrm{H}$
B. $\mathrm{Ca}>\mathrm{Mg}>\mathrm{Na}>\mathrm{K}>\mathrm{H}$
C. $\mathrm{H}>\mathrm{Na}>\mathrm{Mg}>\mathrm{K}>\mathrm{Ca}$
D. $\mathrm{H}>\mathrm{Ca}>\mathrm{Mg}>\mathrm{Na}>\mathrm{K}$
67. Generally male gamete is
A. Small in size
B. Motile
C. Big in size
D. Both A \& B
68. The following statement that is not related to female reproductive system
A. Initiation of Menstrual cycle
B. Development of uterus
C. Placenta formation
D. Sperm Production
69. The disc like structure embedded in the uterine wall
A. Placenta
B. Embryo
C. Ovum
D. Fallopian tube
70. The ratio of pure tall, impure tall and pure dwarf plants after self pollination of $\mathrm{F}_{1}$ tall [Tt] plants respectively
A. 2:1:1
B. 1:2:1
C. 1:1:2
D. 3:1:1
71. The example of an organism for non genetic sex determination
A. Snail
B. Human
C. Elephant
D. Horse
72. Analogous organs
A. Similar in structure and function
B. Similar in structure and differ in function
C. Similar in function and differ in structure
D. Similar in appearance
73. The speed of light is more in vacuum than air. Because
A. The refractive index of vacuum is too less
B. Vacuum has only air particles
C. The refractive index of vacuum is more
D. Vacuum has more density
74. The depending factors of Snell's law
A. Angle of refraction
B. Angle of reflection
C. Angle of incidence
D. Both A \& C
75. The nature of an image formed by an Object kept 6 cm behind the convex lens having the focal length 12 cm
A. Erect \& Real
B. Erect \& Virtual
C. Inverted \& Real
D. Inverted \& Virtual
76. The Magnification ratio of a convex lens where image is formed due to an object placed on 2F1
A. 1:1
B. 2:1
C. 1:2
D. 1:3
77. The thing that is not used in Bio Gas plant
A. Useless vegetable
B. Residue after harvesting the crops
C. Cow dung
D. Useless cement remained after building construction
78. The element used in Solar cell
A. Silicon
B. Carbon
C. Sodium
D. Iron
79. A good habit among the following
A. Using Fan unnecessarily
B. Putting street lights on at day time
C. Igniting gas stove on after placing the utensil
D. keeping mobile charge over night
80. Traditional water harvesting structures of Karnataka
A. Bandara
B. Bundhis
C. Katta
D. Nadis

## Social Science

Four alternatives are given for each of the questions/incomplete statements. Choose the correct answer and shade the correct choice in the OMR provided to you with blue/black ball point pen. $40 \times 1=40$
81. The year which Vasco da Gama reached Kappadu of India is
A) 1497
B) 1498
C) 1947
D) 1489
82. The First Anglo Sikh war was ended with the treaty of
A) Multan treaty
B) Salbai treaty
C) Lahore treaty
D) Bassein treaty
83. Kolkata, Bombay and Madras universities were started through recommendations of
A) Charles wood Commission
B) Mecale Commission
C) Hunter's Commission
D) Jonathan Duncan Commission
84. The war started because of Mahe captured by British was
A) The First Anglo Mysore war
B) The Second Anglo Mysore war
C) The Third Anglo Mysore war
D) The Forth Anglo Mysore war
85. A great work composed by Dayanand Saraswati is
A) Satyarth Prakash
B) Gulamgiri
C) Samvad Kaumudi
D) Mukanayak
86. The immediate cause for 'First War Of Indian Independence' was
A) soldiers were forced to overseas service
B) discrimination in the payment of soldiers
C) ordered to use the Royal Enfield guns
D) insulted the Indian soldiers
87. The moderate leader who tabled the 'Drain Theory' was
A) Gopal Krishna Gokhale
B) Surendranath Banerjee
C) M G Ranade
D) Dadabhai Naoroji
88. The incident caused for Gandhiji call back the Non Cooperation Movement was
A) Jallianwala Bagh Massacre
B) Chauri Chaura Incident
C) Khilafat Movement
D) Round Table Conference
89.Vallabh Bhai Patel was identified as
A) The first Education Minister of India
B) The First Law Minister Of India
C) The First Prime Minister Of India
D) The First Home Minister Of India
90. Segregation of the society based on religion is
A) regionalism
B) gender discrimination
C) communalism
D) Linguistics
91. Not related to panchasheela principles is
A) Non Invasion Of Each Other.
B) Mutual Cooperation And Respect.
C) Anti Apartheid policy
D) Peaceful Coexistence
92. The country that cooperated in the Tashkent Treaty between India and Pakistan in 1966
A) Russia
B) Bangladesh
C) America
D) China
93. The most influential affiliate body called as United Nations Cabinet is
A) General AssemblyB.
B) Secretariat
C) Security Council
D) International Court Of Justice
94. The fundamental rights are included in the part of constitution is
A) third
B) fourth
C) fifth
D) sixth
95. "Education Is Public Property" propagated by
A) Mahatma Gandhiji
B) Jyotiba Phule
C) Jawaharlal Nehru
D) Dr B.R.Ambedkar
96. An unorganised sector labour group
A) agricultural labourers
B) doctors
C) teachers
D) soldiers
97. The first Railway line was laid between
A) Madras Arkonam
B) Kolkata Raniganj
C) Mumbai Thane
D) Bengaluru Mysuru
98. The prominent movement led by Medha Patkar was
A) Alcohol Prohibition Movement
B) Chipko Movement
C) Narmada Bachao Movement
D) Untouchability Prevention Movement
99. 'The child labour is offence' according to the article of the constitution
A) Article 21
B) Article 24
C) Article 32
D) Article 17
100. The West Coast is (more) $\qquad$ than East Coast.
A) wider
B) narrower
C) taller
D) noncontinuous
101. The heaviest rainfall area of India is
A) Ganganagar
B) Mawsynram
C) Dras
D) Royli
102. The suitable soil for growing the cotton is
A) Red soil
B) Laterite soil
C) Black soil
D) Mountain soil
103. The forests found in wet marshy arias, in rever deltas are
A) Shrub Vegetation
B) Mountain Forests
C) Mangrove Forests
D) Ever Green Forests
104. The river flows westward and joins the Arabian sea is
A) the Cauvery
B) the Krishna
C) the Godavari
D) the Narmada
105. The agriculture, growing crops and animal husbandry is known as
A) Compact farming
B) Subsistence farming
C) Mixed farming
D) Dry farming
106. The port found in East coast is
A) Kandla port
B) Paradip port
C) Mormugoa port
D) Kochi port
107. The city which is called as 'Silicon valley' of India
A) Bengaluru
B) Mumbai
C) Kolkata
D) Chennai
108. The Himalayan earthquake zone is compelled with
A) maximum intensity zone
B) moderate intensity zone
C) minimum intensity zone
D) low intensity zone
109. The total value of all goods and services produced in a country during one year
A) per capita income
B) revenue income
C) national income
D) real national income
110. The policy differ from government housing programs is
A) Prime Minister's Aawas Yojana
B) Ambedkar Valmiki Aawas Yojana
C) Mahatma Gandhi National Rural
Employment Guarantee Scheme"
D) Ashraya Yojana
111. The bank account opened by the businessmen is
A) savings bank account.
B) current account
C) recurring deposit account
D) fixed deposit account
112. Word 'Bank' is derived from the Italian word
A) Banco
B) Banquet
C) Bank
D) Banking
113. Consumer protection act came into force in
A) 1986
B)1976
C) 1996
D) 1966
114. Originally Amar Sulya rebellion was
A) labour rebellion
B) farmers rebellion
C) tribal rebellion
D) arms rebellion
115. The leader not belonged to the Radicals group
A) Lala Lajpat Rai
B) Bal Gangadhar Tilak
C) Bipin Chandra pal
D) Gopal Krishna Gokhale
116. The occasion when Gandhiji gave the ultimatum 'Do or Die'
A) Quite India Movement
B) Non Cooperation Movement
C) Civil Disobedience Movement D) Opposition To The Simon Commission
117. The year when the Vishal Mysore state came into being
A) 1st November 1971
B) 1st November 1956
C) 1st November 1973
D) 1st November 1953
118. The city called as 'Manchester of India' is
A) Chennai
B) Bengaluru
C) Mumbai
D) Davanagere
119. The person who provides goods and services based on money
A) supplier
B) user
C) producer
D) consumer
120. Constitutional amendment introduced the uniformed Panchayat Raj institutions all over the country
A) 72nd amendment in 1993 B) 73rd amendment in 1993
C) 72nd amendment in 1992 D) 73rd amendment in 1992

