**ªÀUÀð¸À«ÄÃPÀgÀtUÀ¼ÀÄ**

1. 1) ax2+bx+c=0 ªÀUÀð¸À«ÄÃPÀgÀtzÀ JgÀqÀÄ ªÀÄÆ®UÀ¼À£ÀÄß PÀAqÀÄ»rAiÀÄÄªÀ ¸ÀÆvÀæªÀ£ÀÄß §gÉ¬Äj.

 2) ax2+bx+c=0 ªÀUÀð¸À«ÄÃPÀgÀtzÀ ±ÉÆÃzsÀPÀzÀ ¨É¯ÉAiÀÄ£ÀÄß PÀAqÀÄ»rAiÀÄÄªÀ ¸ÀÆvÀæªÀ£ÀÄß §gÉ¬Äj.

 3) 2-3x2 = -5x ªÀUÀð¸À«ÄÃPÀgÀtªÀ£ÀÄß DzÀ±ÀðgÀÆ¥ÀzÀ°è §gÉzÀÄ a,b,c UÀ¼À ¨É¯ÉUÀ¼À£ÀÄß §gÉ¬Äj.

4) PÉ¼ÀV£À ¸ÀAzÀ¨sÀðUÀ¼À°è ±ÉÆÃzsÀPÀzÀ ¨É¯ÉUÉ ¸ÀA§A¢ü¹zÀAvÉ ªÀÄÆ®UÀ¼À ¸Àé¨sÁªÀªÀ£ÀÄß ¨sÀwð ªÀiÁr.

|  |  |  |
| --- | --- | --- |
| PÀæ.¸ÀA | ±ÉÆÃzsÀPÀzÀ ¨É¯É | ªÀÄÆ®UÀ¼À ¸Àé¨sÁªÀ |
| 1 |   = 0 |  |
| 2 |   > 0 (+ DVzÁÝUÀ) |  |
| 3 |   < 0 (- DVzÁÝUÀ) |  |

1. PÉ¼ÀV£À ªÀUÀð¸À«ÄÃPÀgÀtUÀ¼À£ÀÄß ¸ÀÆvÀæzÀ ¸ÀºÁAiÀÄ¢AzÀ ©r¹.
2. 3x2-5x+2=0 2) x2-7x =12
3. 4x2+4x+1=0 4) x2-2x-3=0
4. PÉ¼ÀV£À ªÀUÀð¸À«ÄÃPÀgÀtUÀ¼À ±ÉÆÃzsÀPÀzÀ ¨É¯ÉAiÀÄ£ÀÄß PÀAqÀÄ»rzÀÄ ªÀÄÆ®UÀ¼À ¸Àé¨sÁªÀªÀ£ÀÄß w½¹.
5. 2x2-6x+3=0 2) 2x2-3x+5=0

3) x2+2x+1=0 4) 5x+2=3x2

III. 2x2- Kx+3=0 ¸À«ÄÃPÀgÀtªÀÅ ¸ÀªÀÄ£ÁzÀ ªÁ¸ÀÛªÀ ªÀÄÆ®UÀ¼À£ÀÄß ºÉÆA¢zÀÝgÉ, K £À ¨É¯É PÀAqÀÄ»r¬Äj.

1. m £À AiÀiÁªÀ ¨É¯ÉUÉ x2+ mx+4=0 ¸À«ÄÃPÀgÀtzÀ ªÀÄÆ®UÀ¼ÀÄ i) ¸ÀªÀÄ ii) ©ü£ÀßªÁVgÀÄvÀÛªÉ?

 **¸ÀASÁå±Á¸ÀÛç**

1. £ÉÃgÀ «zsÁ£À, CAzÁdÄ ¸ÀgÁ¸Àj «zsÁ£À ªÀÄvÀÄÛ ºÀAvÀ«ZÀ®£Á «zsÁ£À¢AzÀ ªÀVÃðPÀÈvÀ zÀvÁÛA±ÀUÀ¼À ¸ÀgÁ¸ÀjAiÀÄ£ÀÄß PÀAqÀÄ»rAiÀÄÄªÀ ¸ÀÆvÀæUÀ¼À£ÀÄß §gÉ¬Äj.
2. ªÀVÃðPÀÈvÀ zÀvÁÛA±ÀUÀ¼À ªÀÄzsÁåAPÀªÀ£ÀÄß PÀAqÀÄ»rAiÀÄÄªÀ ¸ÀÆvÀæ §gÉ¬Äj.
3. ªÀVÃðPÀÈvÀ zÀvÁÛA±ÀUÀ¼À §ºÀÄ®PÀªÀ£ÀÄß PÀAqÀÄ»rAiÀÄÄªÀ ¸ÀÆvÀæ §gÉ¬Äj.
4. PÉ¼ÀV£À DªÀvÀð «vÀgÀuÁ ¥ÀnÖUÉ ¸ÀgÁ¸Àj ¨É¯ÉAiÀÄ£ÀÄß PÀAqÀÄ»r¬Äj.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ªÀUÁðAvÀgÀ | 1-5 | 6-10 | 11-15 | 16-20 |
| DªÀÈwÛ (f) | 2 | 3 | 4 | 1 |

1. PÉ¼ÀV£À DªÀvÀð «vÀgÀuÁ ¥ÀnÖUÉ ¸ÀgÁ¸Àj ¨É¯ÉAiÀÄ£ÀÄß PÀAqÀÄ»r¬Äj.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| x | 12 | 17 | 22 | 27 | 32 |
| f | 2 | 3 | 5 | 3 | 2 |

1. PÉ¼ÀV£À zÀvÁÛA±ÀUÀ½UÉ ªÀÄzsÁåAPÀªÀ£ÀÄß PÀAqÀÄ»r¬Äj.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ªÀUÁðAvÀgÀ | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 |
| DªÀÈwÛ (f) | 3 | 10 | 23 | 5 | 9 |

1. PÉ¼ÀV£À zÀvÁÛA±ÀUÀ½UÉ §ºÀÄ®PÀ (gÀÆrü¨É¯É)ªÀ£ÀÄß PÀAqÀÄ»r¬Äj.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ªÀUÁðAvÀgÀ | 10-25 | 25-40 | 40-55 | 55-70 | 70-85 | 85-100 |
| DªÀÈwÛ (f) | 2 | 3 | 7 | 6 | 6 | 6 |

1. PÉ¼ÀV£À DªÀvÀð «vÀgÀuÁ ¥ÀnÖUÉ PÀrªÉÄ «zsÀzÀ NfÃªï £ÀPÉëAiÀÄ£ÀÄß gÀa¹.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ªÀUÁðAvÀgÀ | 100-120 | 120-140 | 140-160 | 160-180 | 180-200 | 200-220 |
| DªÀÈwÛ (f) | 12 | 14 | 8 | 6 | 10 | 16 |



 6) PÉ¼ÀV£À DªÀvÀð «vÀgÀuÁ ¥ÀnÖUÉ C¢üPÀ «zsÀzÀ NfÃªï £ÀPÉëAiÀÄ£ÀÄß gÀa¹.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ªÀUÁðAvÀgÀ | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 |
| DªÀÈwÛ (f) | 10 | 15 | 20 | 45 | 35 | 25 | 5 |



**14 - ¸ÀA¨sÀªÀ¤ÃAiÀÄvÉ**

1) PÀÄA¢®èzÀ MAzÀÄ zÁ¼ÀªÀ£ÀÄß MAzÀÄ ¨Áj J¸ÉAiÀÄ¯ÁVzÉ. F PÉ¼ÀV£ÀªÀÅUÀ¼À ¸ÀA¨sÀªÀ¤ÃAiÀÄvÉUÀ¼À£ÀÄß PÀAqÀÄ»r¬Äj.

 C) MAzÀÄ ¸ÀªÀÄ¸ÀASÉå D) MAzÀÄ ªÀUÀð ¸ÀASÉå

 E) MAzÀÄ C«¨sÁdå ¸ÀASÉå E) 6QÌAvÀ zÉÆqÀØ ¸ÀASÉå

2) PÀÄA¢®èzÀ MAzÀÄ zÁ¼ÀªÀ£ÀÄß JgÀqÀÄ ¨Áj J¸ÉAiÀÄ¯ÁVzÉ. F PÉ¼ÀV£ÀªÀÅUÀ¼À ¸ÀA¨sÀªÀ¤ÃAiÀÄvÉUÀ¼À£ÀÄß PÀAqÀÄ»r¬Äj.

 C) JgÀqÀÆ ¨Áj 5 ªÉÄÃ¯É §gÀzÉÃ EgÀÄªÀÅzÀÄ D) ªÉÆvÀÛªÀÅ 8 QÌAvÀ PÀrªÉÄ EgÀÄªÀÅzÀÄ

E) UÀÄt®§ÞªÀÅ 20 QÌAvÀ PÀrªÉÄ EgÀÄªÀÅzÀÄ F) UÀÄt®§ÞªÀÅ MAzÀÄ ¥ÀÆtð ªÀUÀðªÁVgÀÄªÀÅzÀÄ

3) ZÉ£ÁßV ¨ÉgÉ¹zÀ 52 PÁqÀÄðUÀ½gÀÄªÀ E¹àÃmï PÀnÖ¤AzÀ MAzÀÄ PÁqïð£ÀÄß AiÀiÁzÀÈaÒPÀªÁV vÉUÉAiÀÄ¯ÁVzÉ.. F PÉ¼ÀV£ÀªÀÅUÀ¼À ¸ÀA¨sÀªÀ¤ÃAiÀÄvÉUÀ¼À£ÀÄß PÀAqÀÄ»r¬Äj.

 C) MAzÀÄ PÀ¥ÀÄà gÁd D) MAzÀÄ ªÀÄÄR PÁqïð

 E) 7 QÌAvÀ PÀrªÉÄ EgÀÄªÀ ¸ÀASÉåAiÀÄÄ¼Àî PÁqïð F) PÉA¥ÀÄ gÁd ªÀÄvÀÄÛ PÀ¥ÀÄà gÁtÂ

G) MAzÀÄ ºÁmïð ªÀÄvÀÄÛ MAzÀÄ gÁd H) MAzÀÄ ºÁmïð CxÀªÁ MAzÀÄ gÁd

4) MAzÀÄ £ÁtåªÀ£ÀÄß JgÀqÀÄ ¨Áj J¸ÉAiÀÄ¯ÁVzÉ. F PÉ¼ÀV£ÀªÀÅUÀ¼À ¸ÀA¨sÀªÀ¤ÃAiÀÄvÉUÀ¼À£ÀÄß PÀAqÀÄ»r¬Äj.

 C) PÀ¤µÀ× MAzÀÄ ²gÀ D) ¥ÀÄZÀÒ«®èzÀ

 E) UÀjµÀ× JgÀqÀÄ ¥ÀÄZÀÒ F) JgÀqÀÆ MAzÉÃ ¥sÀ°vÁA±À«gÀÄªÀ (MAzÉÃ ªÀÄÄR«gÀÄªÀ)

1. MAzÀÄ vÀAqÀªÀÅ MAzÀÄ ¥ÀAzÀåzÀ°è UÉ®ÄèªÀ ¸ÀA¨sÀªÀ¤ÃAiÀÄvÉAiÀÄÄ 0.62 DzÀgÉ CzÉÃ vÀAqÀªÀÅ ¸ÉÆÃ®ÄªÀ ¸ÀA¨sÀªÀ¤ÃAiÀÄvÉ JµÀÄÖ?

**CzsÁåAiÀÄ- 15. ªÉÄÃ¯ÉäöÊ «¹ÛÃtðUÀ¼ÀÄ ªÀÄvÀÄÛ WÀ£À¥sÀ®UÀ¼ÀÄ**

1. PÉ¼ÀV£À PÉÆÃµÀÖPÀªÀ£ÀÄß ¸ÀÆvÀæUÀ½AzÀ ¨sÀwð ªÀiÁr.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| PÀæ.¸ÀA | WÀ£ÁPÀÈw | ¥Á±Àéð ªÉÄÃ¯ÉäöÊ «¹ÛÃtð | ¥ÀÆtð ªÉÄÃ¯ÉäöÊ «¹ÛÃtð | WÀ£À¥sÀ® |
| 1 | ¹°AqÀgï |  |  |  |
| 2 | UÉÆÃ¼À |  |  |  |
| 3 | CzsÀðUÉÆÃ¼À |  |  |  |
| 4 | ±ÀAPÀÄ |  |  |  |
| 5 | ±ÀAPÀÄ«£À ©ü£ÀßPÀ |  |  |  |
| 6 | WÀ£À |  |  |  |
| 7 | DAiÀÄvÀ WÀ£À |  |  |  |

1. JvÀÛgÀ 7¸ÉA.«ÄÃ ªÀÄvÀÄÛ ¥ÁzÀzÀ wædå 5¸ÉA.«ÄÃ. EgÀÄªÀ ¹°AqÀj£À ¥Á±ÀéðªÉÄÃ¯ÉäöÊ, ¥ÀÆtð ªÉÄÃ¯ÉäöÊ «¹ÛÃtð ªÀÄvÀÄÛ WÀ£À¥sÀ®UÀ¼À£ÀÄß PÀAqÀÄ»r¬Äj.
2. NgÉJvÀÛgÀ 14¸ÉA.«ÄÃ ªÀÄvÀÄÛ ¥ÁzÀzÀ wædå 5¸ÉA.«ÄÃ. EgÀÄªÀ ±ÀAPÀÄ«£À ¥Á±ÀéðªÉÄÃ¯ÉäöÊ, ¥ÀÆtð ªÉÄÃ¯ÉäöÊ «¹ÛÃtð ªÀÄvÀÄÛ WÀ£À¥sÀ®UÀ¼À£ÀÄß PÀAqÀÄ»r¬Äj.
3. ªÁå¸À 28 ¸ÉA.«ÄÃ. EgÀÄªÀ UÉÆÃ¼ÀzÀ ªÀPÀæ(¥ÀÆtð) ªÉÄÃ¯ÉäöÊ «¹ÛÃtð ªÀÄvÀÄÛ WÀ£À¥sÀ®UÀ¼À£ÀÄß PÀAqÀÄ»r¬Äj.
4. wædåUÀ¼ÀÄ 14¸ÉA.«ÄÃ, 7¸ÉA.«ÄÃ EgÀÄªÀ ªÀÄvÀÄÛ NgÉ JvÀÛgÀ 10 ¸ÉA.«ÄÃ EgÀÄªÀ ±ÀAPÀÄ«£À ©ü£ÀßPÀzÀ ªÀPÀæªÉÄÃ¯ÉäöÊ «¹ÛÃtð, ¥ÀÆtð ªÉÄÃ¯ÉäöÊ «¹ÛÃtð ªÀÄvÀÄÛ WÀ£À¥sÀ®UÀ¼À£ÀÄß PÀAqÀÄ»r¬Äj.

**Unit- 10 Quadratic equations.**

I. 1) Write the formula to find the two roots of the quadratic equation ax2+bx+c=0

1. Write the formula to find the discriminant of the quadratic equation ax2+bx+c=0

 3) Write the given quadratic equation 2-3x2 = -5x in its standard form and find the values of a,b,c .

4) Fill the nature of the roots of a quadratic equation according to the value of discriminant ( ).

|  |  |  |
| --- | --- | --- |
| Sl.no | Value of discriminant | Nature of roots |
| 1 |   = 0 |  |
| 2 |   > 0 (+ ve) |  |
| 3 |   < 0 (- ve) |  |

II. Solve the given quadratic equations by formula method.

1. 3x2-5x+2=0 2) x2-7x =12

3) 4x2+4x+1=0 4) 5x2-2x-3=0

III. Discuss the nature of the roots of the following quadratic equations.

1) 2x2-6x+3=0 2) 2x2+5=0

3) x2+2x+1=0 4) 5x-2=3x2

1. 1) Find the value of ‘K’ , if the quadratic equation 2x2- Kx+3=0 having equal roots.
2. For what value of ‘m’ such that the roots are i) real and equal ii) real and distinct iii) imaginary, of a quadratic equation x2+ mx+4=0

**Unit - 13. Statastics**

1. Write the formula to find the mean for grouped data by a) direct method

b) assumed mean method c) step deviation method.

1. Write the formula to find the mode for grouped data.
2. Write the formula to find the median for grouped data.
3. Find the mean for the following frequency distribution table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| C-I | 1-5 | 6-10 | 11-15 | 16-20 |
| f | 2 | 3 | 4 | 1 |

1. Find the mean for the following frequency distribution table by using suitable method.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| x | 12 | 17 | 22 | 27 | 32 |
| f | 2 | 3 | 5 | 3 | 2 |

1. Find the median for the following frequency distribution table.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| C-I | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 |
| f | 3 | 10 | 23 | 5 | 9 |

1. Calculate the mode for the following frequency distribution table.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| C-I | 10-25 | 25-40 | 40-55 | 55-70 | 70-85 | 85-100 |
| f | 2 | 3 | 7 | 6 | 6 | 6 |

1. Draw a less than type Ogive for the following frequency distribution table.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| C-I | 100-120 | 120-140 | 140-160 | 160-180 | 180-200 | 200-220 |
| f | 12 | 14 | 8 | 6 | 10 | 16 |



6) Draw a more than type Ogive for the following frequency distribution table

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| C-I | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 |
| f | 10 | 15 | 20 | 45 | 35 | 25 | 5 |



**Unit -14 Probability**

1. A die is thrown once, what is the probability of getting ,
2. an even number
3. a square number
4. a prime number
5. a number more than 6
6. A die is thrown twice, What is the probability of getting ,
7. 5 is not come up either time

b) sum is less than 8

1. product is less than 20
2. Product is a square number.
3. A card is drawn from a well shuffled deck of playing cards .What is the probability of getting

a) a black king

 b) a face card

1. a number card less than 7
2. a red king and black queen.
3. a heart and a king

 4) A fair coin is tossed twice , what is the probability of getting , a) at least one head

b) no tail

c) at most two tail

d) both are same faces.

1. If winning percentage of one team in a match is 0.62 , then what is the loosing percentage of the team in a same match?

**Unit 15 - Surface areas and volume**

1. **Fill in the blanks with suitable formulas**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sl.no | Solid name | LSA or CSA | TSA | VOLUME |
| 1 | Cylinder |  |  |  |
| 2 | Sphere |  |  |  |
| 3 | Hemisphere |  |  |  |
| 4 | Cone |  |  |  |
| 5 | Frustum of a cone |  |  |  |
| 6 | Cube |  |  |  |
| 7 | cuboid |  |  |  |

II. Height and radius of a cylinder are 7cm and 5cm respectively. Find its CSA, TSA, Volume.

III. Slant height and radius of a cone are 14cm and 5cm respectively. Find its CSA, TSA, Volume.

IV.Diameter of a sphere is 28 cm. Find its CSA, TSA, Volume.

V.The radii of ends of a frustum of a cone are 28cm and 7 cm. Its height and slant heights are 45cm and 50 cm (approximately) . Find its CSA, TSA, Volume.