

SSLC

**MATHEMATICS**

Questions for Daily  
practice

10 SET

QUESTION PAPERS

- 1) State Thale's theorem or Basic Proportionality theorem.
- 2) Express 196 as product of prime factors.
- 3) Find the H.C.F of 65 & 117.
- 4) Find the L.C.M of 72 & 105.
- 5) Is  $(17 \times 5 \times 11 \times 2 + 2)$  a composite number?
- 6) If  $60 = 24 \times m + n$ , find the value of m and n
- 7) Prove that  $5 - \sqrt{3}$  is irrational.
- 8) Construct a pair of tangents to a circle of radius 5cm which are inclined at an angle of  $60^\circ$ .
- 9) Solve using formula  $x^2 - 7x + 12 = 0$
- 10) Find the nature of roots of the quadratic equation  $y^2 - 7y + 2 = 0$
- 11) For what value of k, the quadratic equation  $a^2 - ka + 1 = 0$  has equal roots.
- 12) Construct  $\triangle ABC$  in which  $AB=4\text{cm}$ ,  $BC=5\text{cm}$ ,  $AC=6\text{cm}$ . Construct a triangle similar to  $\triangle ABC$  such that each side is  $2/3$  of the corresponding sides of  $\triangle ABC$
- 13) Calculate the mean of the following distribution.

CI	0-10	10-20	20-30	30-40	40-50
f	12	16	6	7	9

- 14) Calculate the median of the following distribution.

CI	100-150	150-200	200-250	250-300	300-350
f	6	3	5	20	10

- 15) Calculate the mode of the following distribution.

CI	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
f	5	8	7	12	28	20	10	10

- 16) Construct more than ogive for the following distribution.

CI	0-10	10-20	20-30	30-40	40-50	50-60	60-70
f	5	15	20	23	17	11	9

- 17) Solve graphically and state whether the equations have unique solution or not.  
 $2x - 3y = 6$  and  $x + y = 1$
- 18) Solve for x and y:  $2x - y = 6$  and  $x - y = 2$

- 1) State Pythagora's Theorem.
- 2) Express 225 as product of prime factors.
- 3) Find the H.C.F of 55 & 210.
- 4) Find the L.C.M of 336 & 54
- 5) Is  $(17 \times 11 \times 13 + 13)$  a composite number?
- 6) If  $144 = 2^x \times 3^y$  find the value of x and y.
- 7) Prove that  $3 + \sqrt{5}$  is irrational.
- 8) Construct a pair of tangents to a circle of radius 4.5cm if the angle between the radii is  $70^\circ$ .
- 9) Solve using formula  $m^2 = 2+2m$ .
- 10) Find the nature of roots of the quadratic equation  $x^2 - 2x + 3 = 0$
- 11) For what value of k, the quadratic equation  $x^2 - kx + 9 = 0$  has equal roots.
- 12) Construct  $\triangle ABC$  in which  $AB=4\text{cm}$ ,  $\angle B=60^\circ$ , altitude  $CL=3\text{cm}$ . Construct  $\triangle ADE$  similar to  $\triangle ABC$  such that each side is  $\frac{3}{2}$  times the corresponding sides of  $\triangle ABC$ .
- 13) Calculate the mean of the following distribution.

CI	0-10	10-20	20-30	30-40	40-50
f	5	18	15	16	6

- 14) Calculate the median of the following distribution.

CI	0-8	8-16	16-24	24-32	32-40	40-48
f	8	10	16	24	15	7

- 15) Calculate the mode of the following distribution.

CI	25-30	30-35	35-40	40-45	45-50	50-55
f	25	34	50	42	38	14

- 16) Construct less than ogive for the following distribution.

CI	200-250	250-300	300-350	350-400	400-450	450-500	500-550	550-600
f	30	15	45	20	25	40	10	15

- 17) Solve graphically and state whether the equations have unique solution or not.  
 $x - 3y = 3$  and  $3x - 9y = 2$
- 18) Solve for x and y:  $x - y = 0$  and  $2x - y = 2$

- 1) State Converse of Thale's Theorem.
- 2) Express 240 as product of prime factors.
- 3) Find the H.C.F of 237 & 81.
- 4) Find the L.C.M of 72 & 108
- 5) Is  $(13 \times 5 \times 7 + 7)$  a composite number?
- 6) If  $272 = (148 \times X) + y$  find the value of x and y.
- 7) Prove that  $2\sqrt{3} - 4$  is irrational.
- 8) Construct a pair of tangents to a circle of radius 3cm if the angle between the tangents is  $40^\circ$ .
- 9) Solve using formula  $x^2 - 4x - 8 = 0$ .
- 10) Find the nature of roots of the quadratic equation  $2n^2 + 5n - 1 = 0$
- 11) For what value of k, the quadratic equation  $x^2 + kx + 4 = 0$  has equal roots.
- 12) Construct  $\Delta ABC$  in which  $AB=5\text{cm}$ ,  $BC=6\text{cm}$ ,  $CA=7\text{cm}$ . Construct a triangle similar to  $\Delta ABC$  such that each side is  $5/7$  times the corresponding sides of  $\Delta ABC$ .
- 13) Calculate the mean of the following distribution.

CI	0-20	20-40	40-60	60-80	80-100
f	7	11	10	9	13

- 14) Calculate the median of the following distribution.

CI	160-162	163-165	166-168	169-171	172-174
f	15	117	136	118	14

- 15) Calculate the mode of the following distribution.

CI	160-162	163-165	166-168	169-171	172-174
f	15	118	142	127	18

- 16) Construct less than ogive for the following distribution.

CI	200-220	220-240	240-260	260-280	280-300	300-320
f	7	3	6	8	2	4

- 17) Solve graphically and state whether the equations have unique solution or not.  
 $2x - 3y = 6$  and  $2x + y + 10 = 0$
- 18) Solve for x and y:  $2x + 3y - 4$  and  $3x - 2y - 6 = 0$

- 1) State converse of Pythagoras theorem.
- 2) Express 1024 as product of prime factors.
- 3) Find the H.C.F of 144 & 198.
- 4) Find the L.C.M of 108 & 360.
- 5) Show that  $(1 \times 2 \times 3 \times 4 + 4)$  is not a prime number.
- 6) If  $468 = a^x \times b^y \times c^z$  find the value of a, b, c, x, y, z
- 7) Prove that  $2 + \sqrt{3}$  is irrational.
- 8) Construct a pair of tangents to a circle of radius 3.5cm if the angle between the radii is  $80^\circ$ .
- 9) Solve using formula  $x^2 - 4x + 2 = 0$
- 10) Find the nature of roots of the quadratic equation  $a^2 + 4a + 4 = 0$
- 11) For what value of k, the quadratic equation  $2x^2 + kx + 3 = 0$  has equal roots.
- 12) Construct  $\Delta PQR$  in which  $QR=6\text{cm}$ ,  $PQ=5\text{cm}$ ,  $\angle PQR=60^\circ$ , Construct a triangle similar to  $\Delta PQR$  such that each side is  $\frac{3}{5}$  times the corresponding sides of  $\Delta PQR$ .
- 13) Calculate the mean of the following distribution.

CI	0-10	10-20	20-30	30-40	40-50
f	7	8	12	13	10

- 14) Calculate the median of the following distribution.

CI	0-10	10-20	20-30	30-40	40-50	50-60
f	3	6	8	15	10	8

- 15) Calculate the mode of the following distribution.

CI	6-15	16-25	26-35	36-45	46-55	56-65
f	6	11	21	23	14	5

- 16) Construct ogive for the following distribution.

Marks	Less than 10	Less than 20	Less than 30	Less than 40	Less than 50
f	3	11	28	48	70

- 17) Solve graphically and state whether the equations have unique solution or not.  $2x + y = 6$  and  $x - y = 3$
- 18) For what value of k, the equations  $kx - 5y = 2$  and  $6x + 2y = 7$  have inconsistent solutions?

## SSLC MINIMUM STUDY LEVEL QUESTIONS

- 1) State Euclid's division lemma.
- 2) Express 360 as product of prime factors.
- 3) Find the H.C.F of 144 & 180.
- 4) Find the L.C.M of 18 & 45
- 5) Is  $(3 \times 5 \times 7 + 7)$  a composite number?
- 6) If  $336 = 2^m \times 3^n \times 7^p$ , find the value of m, n, p
- 7) Prove that  $2 - \sqrt{5}$  is irrational.
- 8) Construct a pair of tangents to a circle of radius 3cm if the angle between the tangents is  $100^\circ$ .
- 9) Solve using formula  $x^2 - 2x + 4 = 0$ .
- 10) Find the nature of roots of the quadratic equation  $x^2 + 3x - 4 = 0$
- 11) For what value of k, the quadratic equation  $4x^2 - 3kx + 1 = 0$  has equal roots.
- 12) Construct isosceles  $\triangle ABC$  in which  $BC=6\text{cm}$ , altitude =  $4\text{cm}$ . Construct a triangle similar to  $\triangle ABC$  such that each side is  $\frac{3}{2}$  times the corresponding sides of  $\triangle ABC$ .
- 13) Calculate the mean of the following distribution.

CI	50-70	70-90	90-110	110-130	130-150	150-170
f	18	12	13	27	8	22

- 14) Calculate the median of the following distribution.

CI	0-7	7-14	14-21	21-28	28-35	35-42	42-49
f	3	4	7	11	0	16	9

- 15) Calculate the mode of the following distribution.

CI	0-10	10-20	20-30	30-40	40-50	50-60	60-70
f	8	10	10	16	12	6	7

- 16) Construct ogive for the following distribution.

Height	Less than 7m	Less than 14m	Less than 21m	Less than 28m	Less than 33m
f	25	45	95	140	235

- 17) Solve graphically and state whether the equations have unique solution or not.  $x + y = 4$  and  $2x - 3y = 3$
- 18) For what value of k, if the equations  $4x + 6y = 11$  and  $2x + ky = 7$  have inconsistent solutions?

- 1) State Fundamental theorem of arithmetic.
- 2) Express 108 as product of prime factors.
- 3) Find the H.C.F of 180 & 192.
- 4) Find the L.C.M of 42 & 72.
- 5) Is  $(6 \times 11 \times 7 \times 5 \times 1 + 7)$  a composite number?
- 6) If  $105 = 3^x \times 5^y \times 7^z$ , find the value of  $x, y, z$
- 7) Prove that  $2 + \sqrt{5}$  is irrational.
- 8) Construct a pair of tangents to a circle of radius 5cm from a point 9cm from the centre.
- 9) Solve using formula  $2y^2 + 6y = 3$
- 10) Find the nature of roots of the quadratic equation  $3d^2 - 2d + 1 = 0$
- 11) For what value of  $k$ , the quadratic equation  $2yx^2 - ky + 1 = 0$  has equal roots.
- 12) Construct  $\Delta ABC$  in which  $BC=5.4\text{cm}$ ,  $\angle B=45^\circ$ ,  $\angle A=105^\circ$ . Construct a triangle similar to  $\Delta ABC$  such that each side is  $\frac{4}{3}$  times the corresponding sides of  $\Delta ABC$ .
- 13) Calculate the mean of the following distribution.

CI	0-50	50-100	100-150	150-200	200-250	250-300
f	17	35	43	40	21	24

- 14) Calculate the median of the following distribution.

CI	0-100	100-200	200-300	300-400	400-500
f	40	32	48	22	8

- 15) Calculate the mode of the following distribution.

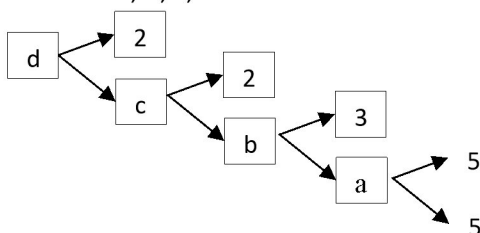
CI	16-18	18-20	20-22	22-24	24-26
f	50	78	46	28	23

- 16) Construct less than ogive for the following distribution.

CI	400-450	450-500	500-550	550-600	600-650	650-700	700-750	750-800
f	20	35	40	32	24	27	18	34

- 17) Solve graphically and state whether the equations have unique solution or not.  
 $x - 2y = 6$  and  $3x - 6y = 0$
- 18) For what value of  $k$ , if the equations  $2x + ky = 11$  and  $5x - 7y = 5$  have no solutions?

- Write the mathematical form of Euclid's Division Lemma.
- Express 560 as product of prime factors.
- Find the H.C.F of 100 & 190.
- Find the L.C.M of 344 & 60
- Is  $(2 \times 3 \times 4 \times 5 + 3)$  a composite number?
- Find the value of a, b, c, d number in the factor tree.



- Prove that  $\sqrt{2} - 8$  is irrational.
- Construct a pair of tangents to a circle of radius 4cm from a point 3cm from the circle.
- Solve using formula  $8r^2 = r + 2$
- Find the nature of roots of the quadratic equation  $4x^2 - 4x + 1 = 0$
- For what value of k, the quadratic equation  $2a^2 + 3a + k = 0$  has equal roots.
- Construct  $\Delta ABC$  in which  $AB=5.2\text{cm}$ ,  $AC=5.5\text{cm}$ ,  $BC= 3.5\text{cm}$ . Construct a triangle similar to  $\Delta ABC$  such that each side is  $5/7$  times the corresponding sides of  $\Delta ABC$ .
- Calculate the mean of the following distribution.

CI	0-10	10-20	20-30	30-40	40-50	50-60
f	14	8	15	21	9	8

- Calculate the median of the following distribution.

CI	95-105	105-115	115-125	125-135	135-145
f	19	23	36	70	52

- Calculate the mode of the following distribution.

CI	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
f	3	5	16	12	13	20	6	5

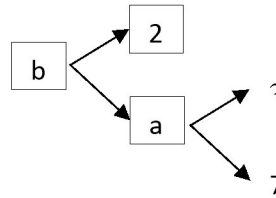
- Construct more than ogive for the following distribution.

CI	0-5	5-10	10-15	15-20	20-25
f	2	5	6	8	10

- Solve graphically and state whether the equations have unique solution or not.  
 $2y - x = 9$  and  $x = 2y - 7$
- For what value of k, if the equations  $2x + ky = 1$  and  $3x - 5y = 7$  have unique solutions?



- 1) What are complementary events?
- 2) Express 255 as product of prime factors.
- 3) Find the H.C.F of 105 & 120.
- 4) Find the L.C.M of 36 & 32
- 5) Is  $(2 \times 4 \times 6 \times 8 + 4)$  a composite number?
- 6) Find the value of a and b in the factor tree.



- 7) Prove that  $4 - \sqrt{3}$  is irrational.
- 8) Construct a pair of tangents to a circle of radius 3.5cm from a point 6cm from the centre.
- 9) Solve using formula  $p = 5 - 2p^2$
- 10) Find the nature of roots of the quadratic equation  $4x^2 - 5x + 3 = 0$
- 11) For what value of k, the quadratic equation  $ka^2 - 12a + 9 = 0$  has equal roots.
- 12) Construct Equilateral  $\Delta ABC$  with sides 5cm. Construct a triangle similar to  $\Delta ABC$  such that each side is  $6/7$  times the corresponding sides of  $\Delta ABC$ .
- 13) Calculate the mean of the following distribution.

CI	0-10	10-20	20-30	30-40	40-50
f	3	5	9	5	3

- 14) Calculate the median of the following distribution.

CI	0-10	10-20	20-30	30-40	40-50	50-60
f	15	17	19	27	19	12

- 15) Calculate the mode of the following distribution.

CI	20-30	30-40	40-50	50-60	60-70
f	25	47	62	37	10

- 16) Construct more than ogive for the following distribution.

CI	15-20	20-25	25-30	30-35	35-40	40-45	45-50
f	3	13	21	15	5	4	2

- 17) Solve graphically and state whether the equations have unique solution or not.  
 $2x + y - 3 = 0$  and  $2x - 3y - 7 = 0$
- 18) For what value of k, if the equations  $2x + 3y - 5 = 0$  and  $kx - 6y - 8 = 0$  have unique solutions?

- 1) Write the standard form of a quadratic equation.
- 2) Express 210 as product of prime factors.
- 3) Find the H.C.F of 42 & 72.
- 4) Find the L.C.M of 52 & 182
- 5) Is  $(6 \times 7 \times 8 \times 9 \times 10 + 9)$  a composite number?
- 6) If  $25025 = 5^a \times 7^b \times 11^c \times 13^d$ , find the values of a, b, c, d
- 7) Prove that  $5 + \sqrt{6}$  is irrational.
- 8) Construct a pair of tangents to a circle of diameter 6cm from a point 10cm from the centre.
- 9) Solve using formula  $x^2 - 2x - 3 = 0$
- 10) Find the nature of roots of the quadratic equation  $x^2 - 6x + 6 = 0$
- 11) For what value of k, the quadratic equation  $kx^2 + 6x + 1 = 0$  has equal roots.
- 12) Construct equilateral  $\Delta PQR$  with side 5cm. Construct a triangle similar to  $\Delta PQR$  such that each side is  $3/4$  times the corresponding sides of  $\Delta PQR$ .
- 13) Calculate the mean of the following distribution.

CI	0-10	10-20	20-30	30-40	40-50	50-60
f	7	5	6	12	8	2

- 14) Calculate the median of the following distribution.

CI	80-100	100-120	120-140	140-160	160-180
f	5	6	2	3	4

- 15) Calculate the mode of the following distribution.

CI	0-5	5-10	10-15	15-20	20-25	25-30	30-35
f	6	11	18	24	17	13	5

- 16) Construct more than ogive for the following distribution.

CI	0-10	10-20	20-30	30-40	40-50
f	20	24	40	36	20

- 17) Solve graphically and state whether the equations have unique solution or not.  
 $3x + y + 1 = 0$  and  $2x - 3y + 8 = 0$
- 18) For what value of k, if the equations  $2x - 3y + 10 = 0$  and  $3x + ky + 15 = 0$  have infinite number of solutions?

- 1) Write the discriminant of the quadratic equation  $ax^2 + bx + c = 0$
- 2) Express 468 as product of prime factors.
- 3) Find the H.C.F of 18 & 45.
- 4) Find the L.C.M of 125 & 55
- 5) Is  $(4 \times 5 \times 6 \times 7 \times 8 + 8)$  a composite number?
- 6) If  $198 = a^x \times b^y \times c^z$  find the values of a, b, c, x, y, z
- 7) Prove that  $-2 + \sqrt{5}$  is irrational.
- 8) Construct a pair of tangents to a circle of radius 2cm from a point 5cm from the centre.
- 9) Solve using formula  $x^2 + 8x + 6 = 0$
- 10) Find the nature of roots of the quadratic equation  $9x^2 - 12x + 4 = 0$
- 11) For what value of k, the quadratic equation  $x^2 + kx + 4 = 0$  has equal roots.
- 12) Construct  $\Delta PQR$  in which  $QR=6, PR=PQ=4$ cm. Construct a triangle similar to  $\Delta PQR$  such that each side is  $5/7$  times the corresponding sides of  $\Delta PQR$ .
- 13) Calculate the mean of the following distribution.

CI	10-20	20-30	30-40	40-50	50-60	60-70	70-80
f	6	8	13	7	3	2	1

- 14) Calculate the median of the following distribution.

CI	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
f	15	20	25	24	12	31	21	12

- 15) Calculate the mode of the following distribution.

CI	45-55	55-65	65-75	75-85	85-95	95-105	105-115
f	7	12	17	30	32	6	10

- 16) Construct more than ogive for the following distribution.

CI	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40
f	4	6	10	10	25	22	18	5

- 17) Solve graphically and state whether the equations have unique solution or not.  
 $3x - 5y = -1$  and  $2x - y = -3$
- 18) For what value of k, if the equations  $7x - y = 5$  and  $21x - 3y = k$  have consistent solutions?