Marking Scheme
Strictly Confidential
(For Internal and Restricted use only)
Secondary School Examination, 2024
SUBJECT NAME MATHEMATICS (BASIC) (Q.P. CODE 430(B)/S)

General Instructions: -

1	You are aware that evaluation is the most important process in the actual and correct assessment of the candidates. A small mistake in evaluation may lead to serious problems which may affect the future of the candidates, education system and teaching profession. To avoid mistakes, it is requested that before starting evaluation, you must read and understand the spot evaluation guidelines carefully.
2	**"Evaluation policy is a confidential policy as it is related to the confidentiality of the examinations conducted, evaluation done and several other aspects. It's leakage to public in any manner could lead to derailment of the examination system and affect the life and future of millions of candidates. Sharing this policy/document to anyone, publishing in any magazine and printing in News Paper/Website etc. may invite action under various rules of the Board and IPC."**
3	Evaluation is to be done as per instructions provided in the Marking Scheme. It should not be done according to one's own interpretation or any other consideration. Marking Scheme should be strictly adhered to and religiously followed. **However, while evaluating, answers which are based on latest information or knowledge and/or are innovative, they may be assessed for their correctness otherwise and due marks be awarded to them. In class-X, while evaluating two competency-based questions, please try to understand given answer and even if reply is not from marking scheme but correct competency is enumerated by the candidate, due marks should be awarded.**
4	The Marking scheme carries only suggested value points for the answers. These are in the nature of Guidelines only and do not constitute the complete answer. The students can have their own expression and if the expression is correct, the due marks should be awarded accordingly.
5	The Head-Examiner must go through the first five answer books evaluated by each evaluator on the first day, to ensure that evaluation has been carried out as per the instructions given in the Marking Scheme. If there is any variation, the same should be zero after deliberation and discussion. The remaining answer books meant for evaluation shall be given only after ensuring that there is no significant variation in the marking of individual evaluators.
6	Evaluators will mark (✓) wherever answer is correct. For wrong answer CROSS 'X" be marked. Evaluators will not put right (✓) while evaluating which gives an impression that answer is correct and no marks are awarded. **This is most common mistake which evaluators are committing.**
7	If a question has parts, please award marks on the right-hand side for each part. Marks awarded for different parts of the question should then be totaled up and written in the left-hand margin and encircled. This may be followed strictly.
8	If a question does not have any parts, marks must be awarded in the left-hand margin and encircled. This may also be followed strictly.
9	If a student has attempted an extra question, answer of the question deserving more marks should be retained and the other answer scored out with a note **"Extra Question"**.
10	No marks to be deducted for the cumulative effect of an error. It should be penalized only once.
11	A full scale of marks 0 to 80 (example 0 to 80/70/60/50/40/30 marks as given in Question Paper) has to be used. Please do not hesitate to award full marks if the answer deserves it.
12	Every examiner has to necessarily do evaluation work for full working hours i.e., 8 hours every day and evaluate 20 answer books per day in main subjects and 25 answer books per day in other subjects (Details are given in Spot Guidelines).This is in view of the reduced syllabus and number of questions in question paper.
13	Ensure that you do not make the following common types of errors committed by the Examiner in the past:- ● Leaving answer or part thereof unassessed in an answer book. ● Giving more marks for an answer than assigned to it. ● Wrong totaling of marks awarded on an answer.

	● Wrong transfer of marks from the inside pages of the answer book to the title page. ● Wrong question wise totaling on the title page. ● Wrong totaling of marks of the two columns on the title page. ● Wrong grand total. ● Marks in words and figures not tallying/not same. ● Wrong transfer of marks from the answer book to online award list. ● Answers marked as correct, but marks not awarded. (Ensure that the right tick mark is correctly and clearly indicated. It should merely be a line. Same is with the X for incorrect answer.) ● Half or a part of answer marked correct and the rest as wrong, but no marks awarded.
14	While evaluating the answer books if the answer is found to be totally incorrect, it should be marked as cross (X) and awarded zero (0) Marks.
15	Any unassessed portion, non-carrying over of marks to the title page, or totaling error detected by the candidate shall damage the prestige of all the personnel engaged in the evaluation work as also of the Board. Hence, in order to uphold the prestige of all concerned, it is again reiterated that the instructions be followed meticulously and judiciously.
16	The Examiners should acquaint themselves with the guidelines given in the "**Guidelines for spot Evaluation**" before starting the actual evaluation.
17	Every Examiner shall also ensure that all the answers are evaluated, marks carried over to the title page, correctly totaled and written in figures and words.
18	The candidates are entitled to obtain photocopy of the Answer Book on request on payment of the prescribed processing fee. All Examiners/Additional Head Examiners/Head Examiners are once again reminded that they must ensure that evaluation is carried out strictly as per value points for each answer as given in the Marking Scheme.

SECTION A

*This section has **20** Multiple Choice Questions (MCQs) carrying **1** mark each.* *20×1=20*

1. The exponent of 3 in the prime factorisation of 243 is :

(A) 2 (B) 3

(C) 4 (D) 5

Answer (D) 5 — 1

2. The zeroes of the polynomial $x^2 + 5x + 6$ are :

(A) 2, 3 (B) 3, – 2

(C) – 3, – 2 (D) – 3, 2

Answer (C) -3,-2 — 1

3. If the product of the zeroes of the quadratic polynomial $5x^2 + 7x + k$ is $\frac{2}{5}$, then the value of k is :

(A) – 2

(B) 3

(C) 5

(D) 2

Answer (D) 2 — 1

4. The pair of equations x = 3 and y = – 2 graphically represent lines which are :

(A) coincident

(B) parallel

(C) intersecting at (3, – 2)

(D) intersecting at (– 3, 2)

Answer (C) intersecting at (3,-2) — 1

5. The x-coordinate of the point which lies on the line represented by $3x - y - 1 = 0$ and whose y-coordinate is 5, is : (A) -2 (B) 2 (C) 5 (D) -5	
Answer (B) 2	1
6. Which one of the following equations does ***not*** have real roots ? (A) $x^2 - 2x - 2\sqrt{3} = 0$ (B) $x^2 - 4x + 4\sqrt{2} = 0$ (C) $3x^2 + 4\sqrt{3}x + 3 = 0$ (D) $x^2 - 4x - 2\sqrt{2} = 0$	
Answer (B) $x^2-4x+4\sqrt{2} = 0$	1
7. The 8^{th} term of an A.P., whose first two terms are -5 and 2 respectively, is : (A) -54 (B) 44 (C) -61 (D) -33	
Answer (B) 44	1
8. The distance of $(-4, 7)$ from y-axis is : (A) 4 (B) -4 (C) 7 (D) $\sqrt{65}$	
Answer (A) 4	1

9. The coordinates of a point on the x-axis, which is equidistant from $(-2, 5)$ and $(2, -3)$ are : (A) $(-5, 0)$ (B) $(-3, 0)$ (C) $(-4, 0)$ (D) $(-2, 0)$	
Answer (D) (-2,0)	1
10. If the coordinates of the mid-points of the line joining the points $(3a, 4)$ and $(-2, 2b)$ are $(5, a)$, then (A) $a = 2, b = 5$ (B) $a = 4, b = 2$ (C) $a = 3, b = 4$ (D) $a = 5, b = 8$	
Answer (B) a=4, b=2	1
11. From a point P which is at a distance of 17 cm from the centre O of a circle of radius 8 cm, the pair of tangents PQ and PR to the circle are drawn. The area of triangle OPQ is : (A) 120 sq cm (B) 68 sq cm (C) 60 sq cm (D) 127·5 sq cm	
Answer (C) 60 sq cm	1
12. The maximum value of $\frac{1}{\text{cosec } \theta}$, $(0 \leq \theta \leq 90°)$ is : (A) $\frac{\sqrt{3}}{2}$ (B) 1 (C) $\frac{1}{\sqrt{2}}$ (D) $\sqrt{2}$	
Answer (B) 1	1

13. If cosec B = $\frac{2}{\sqrt{3}}$ and A + B = 90°, then the value of sec A is :

(A) $\frac{2}{\sqrt{3}}$ (B) $\sqrt{2}$

(C) $\frac{\sqrt{3}}{2}$ (D) 2

Answer (A) $\frac{2}{\sqrt{3}}$ 1

14. The marks obtained by 50 students in a test are tabulated below :

Marks :	0 – 15	15 – 30	30 – 45	45 – 60	60 – 75
Number of students :	3	9	20	15	3

The number of students who got less than 45 marks is :

(A) 12 (B) 47

(C) 32 (D) 18

Answer (C) 32 1

15. In a family of two children, the probability of having at most one boy, is :

(A) $\frac{3}{4}$ (B) $\frac{1}{2}$

(C) $\frac{1}{4}$ (D) 1

Answer (A) $\frac{3}{4}$ 1

16. Two dice are thrown together. The probability of getting the same number on both dice, is : (A) $\frac{1}{6}$ (B) $\frac{5}{6}$ (C) $\frac{5}{36}$ (D) $\frac{7}{36}$	
Answer (A) $\frac{1}{6}$	1
17. The median of the first nine prime numbers is : (A) 7 (B) 11 (C) 13 (D) 17	
Answer (B) 11	1
18. A solid is hemispherical at the bottom and conical above (of same radius). If the curved surface areas of the two parts are equal, then the ratio of its radius and the height of the conical part is (A) 1 : 3 (B) 3 : 1 (C) $\sqrt{3}$: 1 (D) 1 : $\sqrt{3}$	
Answer (D) 1: √3	1

*Questions number **19** and **20** are Assertion and Reason based questions. Two statements are given, one labelled as Assertion (A) and the other labelled as Reason (R). Select the correct answer to these questions from the codes (A), (B), (C) and (D) as given below.*

(A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

(B) Both Assertion (A) and Reason (R) are true, but Reason (R) is ***not*** the correct explanation of Assertion (A).

(C) Assertion (A) is true, but Reason (R) is false.

(D) Assertion (A) is false, but Reason (R) is true.

19. *Assertion (A) :* If surface areas of the two spheres are in the ratio 16 : 9, then their volumes are in the ratio 64 : 27.

Reason (R) : If S_1 and S_2 are the surface areas of two spheres and V_1 and V_2 are their volumes respectively, then

$$\frac{V_1}{V_2} = \left(\frac{S_1}{S_2}\right)^{3/2}.$$

Answer: (A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).	1

20. *Assertion (A) :* The probability of drawing a red face card, at random, from a well-shuffled pack of 52 playing cards is $\frac{3}{26}$.

Reason (R) : The number of face cards in a pack of 52 playing cards is 16.

Answer (C): Assertion (A) is true, but Reason (R) is false.	1

SECTION B

*This section has **5** Very Short Answer (VSA) type questions of **2** marks each.* $5\times2=10$

21. (a) If $\cos\theta = \frac{3}{5}$, find the value of $\frac{\tan\theta - \sin\theta}{\text{cosec}\,\theta + \cot\theta}$.

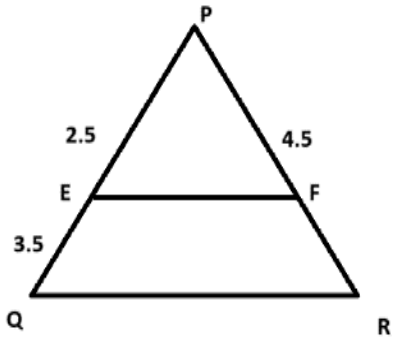
OR

(b) For $\theta = 30°$, verify that $\cos 2\theta = \cos^2\theta - \sin^2\theta$.

Solution (a): $\cos\theta = \frac{3}{5}$, getting $\tan\theta = \frac{4}{3}$, $\sin\theta = \frac{4}{5}$	½
hence, $\frac{\tan\theta - \sin\theta}{\text{Cosec}\,\theta + \text{Cot}\,\theta} = \frac{\frac{4}{3} - \frac{4}{5}}{\frac{5}{4} + \frac{3}{4}}$	1
$= \frac{4}{15}$	½
OR	
Solution(b): LHS = $\cos 2\theta = \cos 60° = \frac{1}{2}$	½
RHS = $\cos^2\theta - \sin^2\theta = \cos^2 30° - \sin^2 30°$	1
$= \frac{3}{4} - \frac{1}{4}$	
$= \frac{1}{2}$ = LHS, hence verified	½

22. E and F are points on the sides PQ and PR respectively of a Δ PQR and EF ∥ QR. If PE = 2·5 cm, PQ = 6 cm and PF = 4·5 cm, find the lengths of RF and PR.

Solution:



Using BPT,

$\frac{PE}{EQ} = \frac{PF}{FR}$ — 1

$\Rightarrow \frac{2.5}{3.5} = \frac{4.5}{FR}$

$\Rightarrow$ RF= $\frac{4.5 \times 3.5}{2.5 \times 10}$ =6.3 cm — ½

$\Rightarrow$ PR=4.5+6.3 =10.8 cm — ½

23. (a) An unbiased die is thrown once. Find the probability of getting (i) a number greater than 3 (ii) an even prime number.

OR

(b) A box contains 5 red, 8 white and 4 green marbles. One marble is drawn from the box at random. Find the probability of (i) getting a white marble (ii) not getting a green marble.

Solution: (a) (i)P (A number greater than 3) $=\frac{3}{6}$ *or* $\frac{1}{2}$ (ii) P(An even prime number) $=\frac{1}{6}$	 1 1
OR	
Solution: (b) Total Marbles =17 (i) P(getting a white marble) $=\frac{8}{17}$ (ii) P(not getting a green marble) $=\frac{13}{17}$	 1 1

24. Find the greatest number which divides 65 and 117 completely.

Solution: 65=5 x13	½
117=3^2x 13	½
∴ HCF = 13	1

25. Solve the following pair of linear equations :

$2x + 3y = 12;\ x - 2y = -1$

Solution: 2x+3y=12 ..... (i) x-2y = -1 .....(ii) Solving the given equations and getting x=3 and y=2	 1+1

SECTION C

*This section has **6** Short Answer (SA) type questions of **3** marks each.* 6×3=18

26. (a) The product of the digits of a 2-digit number is 18. When 27 is subtracted from the number, the digits interchange their places. Find the number.

OR

(b) Two numbers are in the ratio 5 : 6. If 8 is subtracted from each of the numbers, the ratio becomes 4 : 5. Find the numbers.

Solution: (a) Let one's digit be x and ten's digit be y	
A.T.Q. xy =18 ……..(i)	½
Original number =10 y + x	
Number obtained on reversing the digits =10x +y	
A.T.Q., 10y + x - 27 = 10x + y ⟹ y - x = 3……..(ii)	½
From (i) and (ii), $x^2+3x-18=0 \Rightarrow (x+6)(x-3)=0$	1
Solving to get, x=3 (Rejecting x=-6) and y=6	½
Required number = 63	½
OR	
Solution: (b) Let the numbers be 5x and 6x	½
A.T.Q. $\frac{5x-8}{6x-8}=\frac{4}{5}$	1
$\Rightarrow$ 25x-40=24x-34	
$\Rightarrow$ x = 8	½
So the numbers are 40 and 48.	1

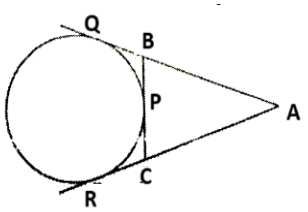
27. Prove that :

$$\frac{1+\cos\theta+\sin\theta}{1+\cos\theta-\sin\theta}=\frac{1+\sin\theta}{\cos\theta}$$

Solution: LHS $= \frac{(1+cos\theta)+(\sin\theta)}{(1+cos\theta)-(sin\theta)} \times \frac{(1+cos\theta)+(\sin\theta)}{(1+cos\theta)+(sin\theta)}$	½
$= \frac{(1+cos\theta)^2+(sin\theta)^2+2(1+cos\theta)sin\theta}{(1+cos\theta)^2-(sin\theta)^2}$	1
$= \frac{2+2\cos\theta+2(1+\cos\theta)\sin\theta}{1+\cos^2\theta+2\cos\theta-\sin^2\theta}$	½
$= \frac{2(1+cos\theta)(1+sin\theta)}{2cos^2\theta+2cos\theta}$	½
$= \frac{1+sin\theta}{cos\theta}$ = RHS	½

28. A circle is touching the side BC of Δ ABC at P and touching the sides AB and AC produced at Q and R respectively. Prove that $AQ = \frac{1}{2}(AB + BC + AC)$.

Solution: Length of the tangents drawn from an external point to a circle are equal.



So AQ = AR , BQ = BP and CR = CP — 1

Now, 2AQ = AQ + AQ = AQ + AR — ½

= (AB + BQ) +(AC + CR) — ½

= AB + BP + AC + PC — ½

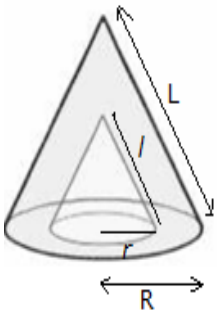
= AB + BC + AC — ½

$\Rightarrow AQ = \frac{1}{2}(AB + BC + AC)$

29. From a solid cone, whose height is 16 cm and radius 12 cm, and conical cavity of height 3 cm and base radius 4 cm is hollowed out such that the bases of the cones form concentric circles. Find the total surface area of the remaining solid.

Solution: Let the slant height and radius of solid cone be L and R respectively.

and the slant height and radius of conical cavity be l and r respectively.



$L = \sqrt{12^2 + 16^2} = \sqrt{144 + 256} = 20$ cm — ½

$l = \sqrt{3^2 + 4^2} = 5cm$ — ½

∴ Required TSA $= \pi RL + \pi rl + \pi(R^2 - r^2)$

$= \pi[12 \times 20 + 4 \times 5 + (144 - 16)]$ — 1½

$= 388\,\pi$ sq. cm or $\frac{8536}{7}$ sq. cm or 1219 sq. cm (approx.) — ½

30. Prove that $(3 + 2\sqrt{5})$ is an irrational number, given that $\sqrt{5}$ is an irrational number.

Solution: (a) Let us assume that $x = 3 + 2\sqrt{5}$ is a rational number — ½

$\Rightarrow \sqrt{5} = \frac{x-3}{2}$ — 1

Now RHS is rational but LHS is irrational — 1

∴ our assumption is wrong

Hence, $3 + 2\sqrt{5}$ is irrational. — ½

31. (a) Find the relation between x and y such that the point P(x, y) is equidistant from the points A(7, 1) and B(3, 5).

OR

(b) Find the coordinates of the points of trisection of the line segment joining the points A(2, – 2) and B(– 7, 4).

Solution: $PA^2 = PB^2$	½
$\Rightarrow (x-7)^2 + (y-1)^2 = (x-3)^2 + (y-5)^2$	1½
$\Rightarrow x - y = 2$	1
OR	
Solution: Let P(x, y) divides AB in the ratio 1:2	½
	
Getting coordinates of P(-1,0)	1
Q is the mid-point of PB	½
Getting coordinates of Q(-4, 2)	1

SECTION D

*This section has **4** Long Answer (LA) type questions of **5** marks each.* $4\times5=20$

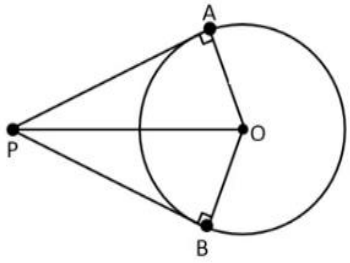
32. Prove that the lengths of tangents drawn from an external point to a circle are equal.

Solution:

Given: A circle with centre O, PA and PB are tangents drawn from an external point P. — 1

To prove: AP = BP

Construction: Join OP, AO and BO.



Proof: In ΔOAP and ΔOBP

OA = OB (Radius of circle)

OP = OP (Common side) — 2

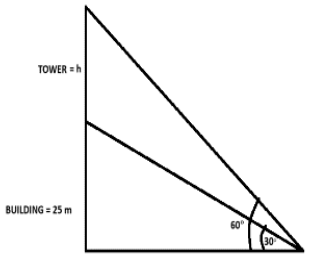
∠OAP = ∠OBP = 90°

∴ ΔOAP ≅ ΔOBP (RHS congruency rule) — 1

Hence, AP = BP (c.p.c.t.) — 1

33. From a point on the ground, the angles of elevation of the bottom and the top of a transmission tower fixed at the top of a 25 m high building are 30° and 60° respectively. Find the height of the transmission tower. [Use $\sqrt{3} = 1{\cdot}732$]

Solution:



Let height of the transmission tower be h and the distance between the point on the ground and the building be x.

$\therefore \frac{25}{x} = \tan 30°$ — 1½

$\Rightarrow x = 25\sqrt{3}$ — 1

Also $\frac{h+25}{x} = \tan 60° \Rightarrow \frac{h+25}{25\sqrt{3}} = \sqrt{3}$ — 1½

$\Rightarrow h = 50$ — 1

$\therefore$ The height of the transmission tower=50 m

34. (a) Find the sum of all multiples of 9 lying between 300 and 700.

OR

(b) The 26^{th}, 11^{th} and the last term of an A.P. are 0, 3 and $-\frac{1}{5}$ respectively. Find the common difference and the number of terms of the A.P.

Solution (a): Multiples of 9 are 306, 315,……,693 — 1

$a_n = 693 \Rightarrow 693 = 306 + (n-1) \times 9$ — 1

$\Rightarrow n = 44$ — ½

$\therefore S_n = \frac{n}{2}[a + l] = \frac{44}{2}(306+693)$ — 1½

$= 22 \times 999 = 21978$ — 1

OR

Solution (b): A.T.Q. $a+25d = 0$ and $a+10d = 3$ — 1+1

solving the above equations to get $d = -\frac{1}{5}$ and $a = 5$ — 1

$a_n = a + (n-1)d$

$\Rightarrow \frac{-1}{5} = 5+(n-1)(\frac{-1}{5})$ — 1

$\Rightarrow n = 27$ — 1

35. (a) The perimeter of a sector of a circle of radius 7 cm is 25 cm. Find the area of the sector.

OR

(b) In a circle of radius 35 cm, an arc subtends an angle of 90° at the centre. Find the area of the minor segment formed by the corresponding chord.

Solution: Perimeter of the sector = $2r + \frac{2\pi r\theta}{360°}$ — 2

$\Rightarrow 14 + \frac{2\pi r\theta}{360°} = 25$

$\Rightarrow \theta = 90°$ — 1

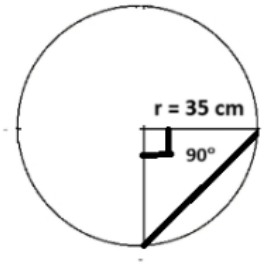
$\therefore$ Area of the sector $= \frac{\pi r^2\,\theta}{360°} = \frac{22}{7} \times 7 \times 7 \times \frac{1}{4}$ — 1½

$= \frac{77}{2}$ sq. cm or 38.5 sq. cm — ½

OR

(b) Area of the segment = Area of sector - Area of right triangle — 1

$= \frac{\pi r^2\,\theta}{360°} - \frac{1}{2}\, r \times r$



$= \frac{22}{7} \times 35 \times 35 \times \frac{90}{360} - \frac{1}{2} \times 35 \times 35$ — 1½+1½

$= 350\ sq.cm$ — 1

SECTION E

*This section has **3** case study based/source based/passage based/integrated units of assessment of **4** marks each with sub-parts.* 3×4=12

36. Ashok and Harish are very close friends. They decided to go on a long drive with their families in separate cars. Ashok's car travels at a speed of x km/h, while Harish was driving the car at a speed of 5 km/h faster than Ashok's car. Ashok took 4 hours more than Harish to complete the journey of 400 km.

Based on the above information, answer the following questions :

(i) Find the distance covered by Harish's car in two hours (in terms of x). *1*

(ii) Make a quadratic equation describing the speed of Ashok's car. *1*

(iii) (a) Find the speed of Ashok's car (in km/h). *2*

OR

(b) Find the speed of Harish's car (in km/h). *2*

Solution: (i) Required distance covered = 2 (x + 5) km — 1

(ii) $\frac{400}{x} - \frac{400}{x+5} = 4$ — 1

$\Rightarrow$ $x^2+5x-500 = 0$

(iii)(a) $x^2 + 5x - 500 = 0$ — 1

$\Rightarrow (x+25)(x-20) = 0$

$\Rightarrow x=20$ (Rejecting x=-25)

Speed of Ashok's car =20 km/h — 1

OR

(iii)(b) $x^2+5x-500=0$

$\Rightarrow (x+25)(x-20) = 0$ } 1½

$\Rightarrow x=20$

Speed of Harish's car =20+5=25km/h — ½

37. The following table shows the age distribution of patients admitted during a day in two different hospitals :

Age (in years) :	5 – 15	15 – 25	25 – 35	35 – 45	45 – 55	55 – 65
Number of Patients admitted in Hospital I :	6	11	21	23	14	5
Number of Patients admitted in Hospital II :	8	16	32	10	24	12

Based on the above information, answer the following questions :

(i) In Hospital I, what is the upper limit of modal class. *1*

(ii) In Hospital II, what is the lower limit of modal class. *1*

(iii) (a) Find the mode of the data of Hospital I. *2*

OR

(b) Find the mode of the data of Hospital II. *2*

Solution: (i) Upper Limit of modal class for hospital I = 45	1
(ii) Lower Limit of modal class for hospital II =25	1
(iii)(a) Mode = $l + \frac{f_1 - f_0}{2f_1 - f_2 - f_0} \times h$ Mode = $35 + \frac{23-21}{46-21-14}$ x10 =36.82 (approx.)	1½ ½
OR	
(iii) (b) Mode = $l + \frac{f_1 - f_0}{2f_1 - f_2 - f_0} \times h$ = $25 + \frac{32-16}{64-16-10}$ x10 = 29.21 (approx.)	1½ ½
38. Sukesh is having a garden at the back of his house with trees and flower plants. One day, due to heavy rain and storm, one of the trees broke such that the height of unbroken part is 15 m and the broken part of the tree bends and touches the ground at 20 m away from the base of the tree. Based on the above information, answer the following questions : (i) Find the length of the broken part of the tree. *1* (ii) What was the height of the full tree ? *1* (iii) (a) Find the perimeter of the triangle formed. *2* **OR** (b) Find the area of the triangle formed. *2*	
Solution: (i) Length of the broken part of the tree=$\sqrt{15^2 + 20^2}$ = 25 m	1
(ii) Height of the full tree =15+25 =40 m	1
(iii)(a) Perimeter of the triangle formed = 15+25+20 = 60m	2
OR	
(iii) (b) Area of the triangle formed = $\frac{1}{2}$ x 20 x 15=150 sq. m	2