

QUESTION DESIGN

Subject : Mathematics
Class : X

Maximum marks : 80
Time : 3 Hours

The weightage or the distribution of marks over different dimensions of the question paper shall be as follows :

1. Weightage to Objective of Learning :

Sl/No	Learning Objectives	Marks	Percentage of Marks
1.1	Knowledge	24	30%
1.2	Understanding	40	50%
1.3	Application/Skill	16	20%
	Total	80	100%

2. Weightage to Contents :

Sl No.	Chapter(s)	Topic	Marks
2.1	1-2	Arithmetic	08
2.2	3-6	Algebra	18
2.3	7	Sets	03
2.4	8-10	Geometry	15
2.5	11	Coordinate Geometry	08
2.6	12-14	Trigonometry	10
2.7	15-16	Mensuration	10
2.8	17-19	Statistics	08
		Total	80

3. Weightage to Forms of Questions :

Sl/No	Form of Questions	Marks for each Qstn	No. of Question	Total Marks	Percentage of Marks
3.1	Objective	1	24	24	30%
3.2	Short Answer Type I (SA-I)	2	10	20	25%
3.3	Short Answer Type II (SA-II)	3	07	21	26.25%
3.4	Long Answer Type (LA)	5	03	15	18.75%
	Total		44	80	100%

The expected time of writing the answer under different forms of Questions would be as follows :

Sl/No	Forms of Questions	No. of Questions	Time
1	Objectives	24	40 minutes
2	Short Answer Type I (2 marks)	10	45 minutes
3	Short Answer Type II (3 marks)	07	50 minutes
4	Long Answer Type (5 marks)	03	35 minutes
5	Revision		10 minutes
Total			180 minutes

The time requirements for the answers are however suggestive. In practice actual time needed may vary. As the total time is calculated on the basis of the number of questions required to be answered and the length of their anticipated answers, it would therefore, be advisable for the candidates to budget their time properly and be within the expected limits.

4. Weightage to Difficulty Level of Questions :

Sl/No	Estimated Difficulty Level of Questions	Percentage of Marks
4.1	Easy	30%
4.2	Average	50%
4.3	Difficult	20%
Total		100%

5. Scheme of Options :

All questions shall be compulsory i.e. there shall not be any overall choice in the question paper. However, internal choices have been provided in 3 questions of 3 marks each and one question of 5 marks. These choices may be given from within the same topic.

6. Scheme of Section :

There shall be no section.

Note :

Theorem shall be asked from any of the following theorems only :

- (a) Basic Proportionality Theorem or Thales Theorem.
- (b) Pythagoras Theorem.
- (c) Results on Angles Subtended by Arcs :
 - (i) The angle subtended by an arc of a circle at the centre is double the angle subtended by it at any point on the remaining part of the circle.
 - (ii) The angle in a semicircle is a right angle.
 - (iii) Angles in the same segment of a circle are equal.
- (d) The opposite angles of a cyclic quadrilateral are supplementary.
- (e) The lengths of tangents drawn from an external point to a circle are equal.
- (f) Segment Theorem.
- (g) Alternate Segment Theorem.

BLUEPRINT - I

Subject : Mathematics
Class : X

Maximum Marks : 80
Time : 3 hours
No. of Paper : 1 (One)

Topic	Form of Questions	KNOWLEDGE				UNDERSTANDING				APPLICATION				TOTAL
		Obj (1 m)	SA-I (2 m)	SA-II (3 m)	LA (5 m)	Obj (1 m)	SA-I (2 m)	SA-II (3 m)	LA (5 m)	Obj (1 m)	SA-I (2 m)	SA-II (3 m)	LA (5 m)	
Arithmetic		2(2)	2(1)			1(1)		3(1)						8(5)
Algebra		3(3)	2(1)			1(1)	4(2)	3(1)					5(1)	18(9)
Geometry		2(2)	2(1)			1(1)	2(1)	3(1)					5(1)	15(7)
Coordinate Geometry		2(2)				1(1)	2(1)	3(1)						8(5)
Trigonometry		2(2)		3(1)			2(1)	3(1)						10(5)
Mensuration		2(2)				3(3)	2(1)	3(1)						10(7)
Statistics		1(1)					2(1)						5(1)	8(3)
Sets		1(1)				1(1)				1(1)				3(3)
Sub-Total		15(15)	6(3)	3(1)		8(8)	14(7)	18(6)		1(1)			15(3)	80(44)
Total		24(19)				40(21)				16(4)				

- Note:**
1. The figures in the bracket denotes the number of questions.
 2. This is only a sample blue print. The question setter may develop his/her own blue print as per the design.

BLUEPRINT - II

Subject : Mathematics
Class : X

Maximum Marks : 80
Time : 3 hours
No. of Paper : 1 (One)

Topic	Forms of Question	KNOWLEDGE				UNDERSTANDING				APPLICATION/SKILL				TOTAL
		Obj (1m)	SA I (2m)	SA II (3m)	LA (5m)	Obj (1m)	SA I (2m)	SA II (3m)	LA (5m)	Obj (1m)	SA I (2m)	SA II (3m)	LA (5m)	
Arithmetic		2(2)				1(1)	2(1)	3(1)						8(5)
Algebra		4(4)	2(1)			2(2)	2(1)	3(1)					5(1)	18(10)
Geometry			2(1)	3(1)		3(3)	2(1)						5(1)	15(7)
Coordinate Geometry			2(1)			3(3)		3(1)						8(5)
Trigonometry				3(1)		2(2)	2(1)	3(1)						10(5)
Mensuration			2(1)			3(3)							5(1)	10(5)
Statistics		1(1)		3(1)		2(2)	2(1)							8(5)
Sets							2(1)			1(1)				3(2)
Sub-Total		7(7)	8(4)	9(3)		16(16)	12(6)	12(4)		1(1)			15(3)	80(44)
TOTAL		24(14)				40(26)				16(4)				

- Note:**
1. The figures in the bracket denotes the number of questions.
 2. This is only a sample blue print. The question setter may develop his/her own blue print as per the design.

BLUEPRINT - III

Subject : Mathematics
Class : X

Maximum Marks : 80
Time : 3 hours
No. of Paper : 1 (One)

Forms of Question Topic	KNOWLEDGE				UNDERSTANDING				APPLICATION/SKILL				TOTAL
	Obj (1m)	SA I (2m)	SA II (3m)	LA (5m)	Obj (1m)	SA I (2m)	SA II (3m)	LA (5m)	Obj (1m)	SA I (2m)	SA II (3m)	LA (5m)	
Arithmetic	1(1)	2(1)			2(2)						3(1)		8(5)
Algebra	2(2)	2(1)			2(2)	2(1)	3(1)	5(1)		2(1)			18(9)
Geometry	1(1)	2(1)		5(1)	2(2)	2(1)	3(1)						15(7)
Coordinate Geometry	1(1)				2(2)	2(1)					3(1)		8(5)
Trigonometry	2(2)				3(3)		3(1)			2(1)			10(7)
Mensuration		2(1)	3(1)		1(1)		3(1)		1(1)				10(5)
Statistics	1(1)					2(1)						5(1)	8(3)
Sets					3(3)								3(3)
Sub-Total	8(8)	8(4)	3(1)	5(1)	15(15)	8(4)	12(4)	5(1)	1(1)	4(2)	6(2)	5(1)	80(44)
TOTAL	24(14)				40(24)				16(6)				

- Note:**
1. The figures in the bracket denotes the number of questions.
 2. This is only a sample blue print. The question setter may develop his/her own blue print as per the design.