

## DESIGN

Subject : MATHEMATICS  
 Class : XII  
 Time : 3 Hours  
 Marks : 200

### Weightage of Marks towards Objectives :

Objectives	K	U	A	S	Total
Marks	76	72	106	42	296
Percentage	26	24	36	14	100

### Weightage towards Form of Questions (to be answered) :

Form of Questions	(Objective) Section A	(Short) Section B	(Long) Section C	Total
Number of Questions	40	10	10	
Marks allotted	40	60	100	200
Time (Minutes)	50	45	85	180

### Level of Difficulty :

Level	Percentage of Marks
(Difficult) High	10
(Average) Medium	30
(Easy) Low	60

### Scheme of Sections and Options :

Section	No. of Questions	No. of Questions to be answered
A	* 40	40
B	16 Last question is in "either - or" form	10
C	16 Last question is in "either - or" form	10

**Distribution of questions and marks towards Examples, Exercises and outside the Text Book :**

	<b>Section A</b>	<b>Section B</b>	<b>Section C</b>	<b>Total Marks</b>	<b>%</b>
From examples given in the Text Book (including theorems and results)	* 30 * Text book objective type question collection	7	6	$30 \times 1 = 30$ $7 \times 6 = 42$ $6 \times 10 = 60$ <hr/> 132	44.6
From exercises given in the Text Book	* 10 * to be created	8	9	$10 \times 1 = 10$ $8 \times 6 = 48$ $9 \times 10 = 90$ <hr/> 148	50
From outside the Text Book (based on the Syllabus)	–	1	1	$1 \times 6 = 6$ $1 \times 10 = 10$ <hr/> 16	

### SECTION – C

- é é é (1) Out of 16 questions, 10 questions are to be answered.
- (2) The students have to select any 9 questions from first 14 questions and the last question is compulsory. The last question (numbered 70) is in either-or form
  - (3) The order of the first 14 questions will be in the order of the chapters.
  - (4) The two questions under the Number 70 will be asked from any two different chapters.
  - (5) The question from outside the book will be a part of first 14 questions.

#### Weightage to Content : XII Mathematics

Chapter No.	Name	Marks
1	Application of Matrices and Determinants	26
2	Vector Algebra	38
3	Complex Numbers	26
4	Analytical Geometry	40
5	Differential Calculus : Applications I	36
6	Differential Calculus : Applications II	18
7	Integral Calculus : Applications	30
8	Differential Equations	30
9	Discrete Mathematics	26
10	Probability Distributions	26
	<b>TOTAL</b>	<b>296</b>

## BLUE PRINT

Class XII

Subject : Mathematics

Max. Marks : 200

Time : 3 Hours

No	Objectives Type of questions Units / Chapters	Knowledge (10 + 5 + 3)			Understanding (8 + 3 + 3)			Application (16 + 6 + 6)			Skill (6 + 1 + 3)		
		O	S	L	O	S	L	O	S	L	O	S	L
1	Applications of Matrices and Determinants (4 + 2 + 1)	1	1	1	1	1	–	1	–	–	1	–	–
2	Vector Algebra (6 + 2 + 2)	2	–	1	1	1	1	3	1	–	–	–	–
3	Complex Numbers (4 + 2 + 1)	1	1	–	1	1	1	1	–	–	1	–	–
4	Analytical Geometry (4 + 1 + 3)	–	1	1	1	–	–	2	–	1	1	–	1
5	Differential Calculus: Applications I (4 + 2 + 2)	1	1	–	1	–	–	1	1	1	1	–	1
6	Differential Calculus Applications II (2 + 1 + 1)	1	–	–	–	–	–	1	–	1	–	1	–
7	Integral Calculus : Applications (4 + 1 + 2)	1	–	–	–	–	1	2	1	1	1	–	–
8	Differential Equations (4 + 1 + 2)	1	–	–	–	–	–	2	1	1	1	–	1
9	Discrete Mathematics (4 + 2 + 1)	1	1	–	2	1	1	1	–	–	–	–	–
10	Probability Distributions (4 + 2 + 1)	1	1	–	1	–	–	2	1	1	–	–	–
	<b>TOTAL</b>	<b>10</b>	<b>6</b>	<b>3</b>	<b>8</b>	<b>4</b>	<b>4</b>	<b>16</b>	<b>5</b>	<b>6</b>	<b>6</b>	<b>1</b>	<b>3</b>

## **Special instruction to the question setters and Marking Scheme (Evaluation Scheme) writers**

- 1) All the 3, 6 and 10 mark questions should be drawn from the book on **Classification and Question Bank** (prepared by Directorate of School Education; published by Tamilnadu Parent Teacher Association) except one 6 mark and one 10 mark questions (which are from outside the Text Book).
- 2) Among 40 one mark questions, 30 questions are from the objective type questions collection attached with the Text Book. The remaining 10 questions must be set from (within) the book (examples, exercises, results etc.) subject to the condition that each of these questions has an average calculation time 75 seconds. (For these 10 questions, refer one mark questions in **Classification and Question Bank Book** (prepared by Directorate of School Education; published by Tamilnadu Parent Teacher Association))
- 3) The question paper setter / scheme writer should prepare the marking scheme (scheme of evaluation) strictly adhering to the calculation steps and diagrams as demonstrated in the source books
  - a) Text Book for example problems
  - b) Solution Book for Exercise problems (prepared by Directorate of School Education, Tamilnadu).
  - c) **Classification and Question Bank Book** (prepared by Directorate of School Education; published by Tamilnadu Parent Teacher Association)
- 4) For the questions outside the book (one 6 mark, one 10 mark), the valuation scheme should be prepared in accordance with the principles followed in the above source books.
- 5) If a problem can be solved using an alternative (rigorous) method, it can be included in the marking scheme **only as an alternative method.**
- 6) The attention of the question setters / scheme writers is drawn to the proceeding of the workshop "Finding Hardspots" on 11, 12.8.2005, which is attached with this instruction.