

GOA BOARD OF SECONDARY AND HIGHER SECONDARY EDUCATION  
ALTO BETIM GOA 403 521  
**DESIGN OF THE QUESTION PAPER**  
**Class: XII**

**Time :2 ½ Hrs.**

**Subject : Mathematics**

**Max Marks: 80**

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

**1. Weightage to Learning Outcomes**

S.No.	Learning Outcomes	Marks	Percentage of Marks
1	Knowledge	20	25.00%
2	Understanding	36	45.00%
3	Application & Analysis	20	25.00%
4	Skill	4	5.00%
	Total:	80	100%

**2. Weightage to Content / Subject Units**

S.No.	Units	Marks
1	Relations and Functions	4
2	Inverse Trigonometric Functions	4
3	Continuity and Derivatives	10
4	Applications of Derivatives	6
5	Integrals and applications	18
6	Differential Equations	6
7	Vectors and 3D	12
8	Probability	6
9	Matrices	5
10	Determinants	5
11	Linear Programming	4
	Total :-	80

**3. Weightage to Forms of Questions**

S.No.	Form of Questions	Marks for each question	Number of questions	Total Marks
1	Long Answer Type (LA1)	4	7	28
2	Long Answer Type (LA2)	5	2	10
3	Short Answer Type ( SA 1 )	2	7	14
4	Short Answer Type ( SA2)	3	7	21
5	Very Short Answer Type ( VSA)	1	7	7
	Total		30	80

The expected time for different level problems would be as follows:

S.No.	Form of Questions	Approx time for each question in mins (t)	Number of questions (n)	Approx. time for each form of questions in mins ( t x n)
1	Long Answer Type (LA1)	8	7	56
2	Long Answer Type (LA2)	10	2	20
3	Short Answer Type ( SA 1 )	3	7	21
4	Short Answer Type ( SA2)	5	7	35
5	Very Short Answer Type ( VSA)	2	7	14
	Total		30	146

As the actual time is calculated on the basis of the number of questions required to be answered and the length of their expected answers, it would, therefore be advisable for the candidate to budget their time properly by cutting out the superfluous words and be within the expected time limits.

#### 4. Scheme of Options

There will be no overall choice. However, there is an internal choice in 02 sub questions of 05 marks category and 1 subquestion of 4 marks category .

#### 5. Weighthage to Difficulty level of questions:

S. No.	Estimated difficulty level of questions	Percentage
1	Easy	20%
2	Average	60%
3	Difficulty	20%

A question may vary in difficulty level from individual to individual. As such, the assessment in respect of each question will be made by the paper setter on the basis of general anticipation from the group as a whole taking the examination. This provision is only to make the paper balanced in its weighthage, rather than to determine the pattern of marking at any stage.

#### 6. Number of Main Questions :

There will be 05 main questions of 10 marks each and 02 questions of 15 marks each.

#### 7. 10-12 % theory is to be included.

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