



GOA BOARD OF SECONDARY AND HIGHER SECONDARY EDUCATION

(A Corporate statutory Body Constituted by an Act of the State Legislature)

ALTO BETIM, BARDEZ-GOA, 403 521.

Website www.gbshse.gov.in email: goaboard@dataone.in Phone(0832) 2417593

GBSHSE/ACAD/Maths_XII/2012/

Date: 26th September, 2012.

To,
The Principal,

Sub: Material in Mathematics and Mathematics & Statistics for Std. XII for Final Exam.

Sir/Madam,

Please find enclosed herewith the Design of the Question Paper, Blue Print and Model Question Paper in respect of Mathematics and Mathematics & Statistics for Std. XII, for the implementation from the Academic Year 2012 – 2013 onwards.

Kindly acknowledge the receipt of the same.

Yours faithfully,

Sd/-
(Bhagirath G. Shetye)
Secretary

Encl: As above.

GOA BOARD OF SECONDARY AND HIGHER SECONDARY EDUCATION
ALTO BETIM – GOA 403 521

DESIGN OF THE MODEL QUESTION PAPER – 2013
HSSC Examination

Class: XII Commerce

Subject: Mathematics & Statistics

Time: 2 ½ Hr

Max. Marks: 80

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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%
2.	Understanding	36	45%
3.	Application	20	25%
4.	Skill	04	05%
Total		80	100%

2. Weightage to Content / Subject Units

S. No.	Units	Marks
1.	Relations And Functions	04
2.	Matrices	06
3.	Determinants	06
4.	Continuity and Derivatives	12
5.	Integration	12
6.	Differential Equations	06
7.	Linear Programming	06
8.	Probability	06
9.	Bill of Exchange	05
10.	Partnership	06
11.	Annuity	06
12.	Application of Calculus in Commerce	05
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 (LA)	04	08	32
2.	Short Answer Type (SA-I)	02	08	16
3.	Short Answer Type (SA-II)	03	08	24
4.	Very Short Answer Type (VSA)	01	08	08
Total		10	08	80

The expected time for different types of question 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 (n x t)
1.	Long Answer Type (LA)	08	08	64
2.	Short Answer Type (SA-I)	03-04	08	30
3.	Short Answer Type (SA-II)	05	08	40
4.	Very Short Answer type (VSA)	02	08	16
Total			32	150

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 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 04 marks category and 01 subquestion of 03 marks category and -- subquestion of -- marks category.)

5. Weightage to Difficulty level of questions:

S.No.	Estimated difficulty level of question	Percentage
1.	Easy	20%
2.	Average	60%
3.	Difficult	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 weightage, rather than to determine the pattern of marking at any stage.

6. Number of Main Questions:

There will be 08 main questions of 10 marks each.

7. 6 – 8% Theory is to be included (Only definitions and Statements of theorem)



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**DESIGN OF THE MODEL QUESTION PAPER – 2013
HSSC Examination**

Class: XII

Subject: Mathematics

Time: 2 ½ Hr

Max. Marks: 80

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3.	Application	20	25%
4.	Skill	04	05%
Total		80	100%

2. Weightage to Content / Subject Units

S. No.	Units	Marks
1.	Relations And Functions	04
2.	Inverse Trigonometric Functions	04
3.	Continuity and Derivatives	10
4.	Applications of Derivatives	06
5.	Integrals and Applications	18
6.	Differential Equations	06
7.	Vectors and 3D	12
8.	Probability	06
9.	Matrices	05
10.	Determinants	05
11.	Linear Programming	04
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 (LA)	04	08	32
2.	Short Answer Type (SA-I)	02	08	16
3.	Short Answer Type (SA-II)	03	08	24
4.	Very Short Answer Type (VSA)	01	08	08
Total		10	08	80

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6. Number of Main Questions:

There will be 08 main questions of 10 marks each.

7. 10 – 12% Theory is to be included.

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MODEL QUESTION PAPER, HSSCE

BLUE PRINT

Class: XII COMMERCE
Subject: MATHEMATICS AND STATISTICS

Maximum Marks: 80
Duration: 2 ½ hrs

Q. No	OBJECTIVES	KNOWLEDGE				UNDESTANDING				APPLICATION				SKILL				INTERNAL CHOICE				TOTAL
	Form of Questions	VSA	SA-I	SA-II	LA	VSA	SA-I	SA-II	LA	VSA	SA-I	SA-II	LA	VSA	SA-I	SA-II	LA	VSA	SA-I	SA-II	LA	
	Marks	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
	CONTENT																					
1.	Relation and Functions					3A		3C														2(4)
2.	Matrices						1B		1D													2(6)
3.	Determinants	1A	2B									2C										3(6)
4.	Continuity and Derivatives	4A			3D			1C	4D													4(12)
5.	Integration		3B	5C				8C	8D													4(12)
6.	Differential Equations	5A	4B									4C										3(6)
7.	Linear Programming						5B										5D					2(6)
8.	Probability	8A						7C			8B											3(6)
9.	Bill of Exchange					2A							2D									2(5)
10.	Partnership	7A	6B					6C														3(6)
11.	Annuity						7B						7D									2(6)
12.	Application of Calculus in Commerce					6A							6D									2(5)
	TOTAL	<i>5(1)</i>	<i>4(2)</i>	<i>1(3)</i>	<i>1(4)</i>	<i>3(1)</i>	<i>3(2)</i>	<i>5(3)</i>	<i>3(4)</i>		<i>1(2)</i>	<i>2(3)</i>	<i>3(4)</i>				<i>1(4)</i>					<i>32(80)</i>



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MODEL QUESTION PAPER, HSSCE
BLUE PRINT

Class: XII
 Subject: MATHEMATICS

Maximum Marks: 80
 Duration: 2 ½ hrs

Q. No	OBJECTIVES	KNOWLEDGE				UNDESTANDING				APPLICATION				SKILL				INTERNAL CHOICE				TOTAL
	Form of Questions	VSA	SA-I	SA-II	LA	VSA	SA-I	SA-II	LA	VSA	SA-I	SA-II	LA	VSA	SA-I	SA-II	LA	VSA	SA-I	SA-II	LA	
	Marks	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
CONTENT																						
1.	Relations And Functions						2B															04
2.	Inverse Trigonometric Functions	2A							3C													04
3.	Continuity and Derivatives	1A	1B						1C	2D												10
4.	Applications of Derivatives										4B						3D					06
5.	Integrals and Applications	4A		1C		5A	5B		4D								5D					18
				5C																		
6.	Differential Equations	3A					6B	4C														06
7.	Vectors and 3D				1D	6A		6C	6D													12
8.	Probability	8A					8B						7C									06
9.	Matrices		7B										8C									05
10.	Determinants	7A															7D					05
11.	Linear Programming																			8D		04
	TOTAL	06	04	06	04	02	10	12	12		02	06	12				04					80
	• CHOICE	← 20 →				← 36 →				← 20 →				← 04 →								