Date: 16/09/2022

Bunts Sangha's

S. M. Shetty College of Science, Commerce & Management Studies, Powai

Permanently Affiliated to University of Mumbai

Department of Data Science

NOTICE

This is to inform all the students of first year BSc Data Science that the Department of Data Science is organizing a **Bridge Course on Mathematics and Statistics** for eligibility to B.Sc. Data Science Programme as per the guidelines by the University of Mumbai vide circular no. AAMS_UGS/ICD/2022-23/99 dated 15-09-2022, Ordinance No: 6606.

The students who have not opted for Mathematics during their class 12 will have to complete the bridge course for being eligible for the admission to First Year of B.Sc. Data Science.

The training should be for 30 hours, 2 hours session on each of the following topics followed by examination of 50 marks with 5 marks questions on each of the following topics.

Measurement of Angles	Trigonometric Functions	Trigonometric Functions of compound Angles
Linear in-equations	Determinants	Logarithms
Permutations and Combinations	Mathematical Induction	Binomial Theorem
Integration	Statistics	Probability
Sequences	Differentiation	Factorization Formulae

Course Coordinator

BUNTS SANGHA'S S M SHETTY COLLEGE OF SCIENCE, COMMERCE & MANAGEMENT STUDIES ★ POWAI MUMBAI-76

Principal

Principal
Bunts Sangha's S.M. Shetty College
of Science Commerce & Management Studies
Powai, Mumbai - 400 076.

Date: 17/12/2022

Bunts Sangha's
S. M. Shetty College of Science, Commerce & Management Studies, Powai
Permanently Affiliated to University of Mumbai

Department of Data Science
Report on Bridge Course of Mathematics and Statistics

Date: 20th September-22 to 15th December-22

The Department of Data Science has conducted Bridge Course on Mathematics and Statistics for the learners of first year BSc Data Science from 20th September-22 to 15th December-22. The Bridge Course classes were taken by Prof. Suman Upadhyay and Prof. Namarata Dubey.

This bridge course is conducted for the students of first year BSc Data Science who were not having Mathematics or Statistics in their HSC in order to fulfill the eligibility of Data Science course admission.

Total 5 Students in above case have participated in the course and after evaluation they have successfully completed the course.

Outcome: The learners were very happy with the Bridge Course Classes. Many concepts of Mathematics and Statistics got clear in lectures and this will help students to understand the content mentioned in Descriptive Statistics and Precalculus syllabus given by University of Mumbai.

Subject Teachers

S. M. SHETTY COLLEGE OF SCIENCE, COMMERCE & MANAGEMENT STUDIES * BUNTS SANGHA'S
POWAI MUMBAI-76

Course Co-ordinator

FYBSC DATA SCIENCE

MATHEMATICS BRIDGE COURSE EXAMINATION-2022

ATTENDANCE SHEET-2022

	Time ~~Date~~	10.20-12.00	10.20-12.00	10.20-12.00	10.20-12.00	10.20-12.00	10.20-12.00	10.20-12.00
	Topic Covered	Permutations & Combinations	Mathematical Induction	Binomial Theorem	Differentiation	Integration	Statistics	Probability
Sr. No.	**Name of the Students** Date	20-09-22	27-09-22	06-10-22	13-10-22	20-10-22	27-10-22	03-11-22
1	Bhanushali Dhaval Deepak							
2	Gore Sanskruti Anuroop	Gone	Gone	Gone	Gone	Gone	Gone	Gone
3	Jalindre Mehul Praful							
4	Kazi Alfiya Hanif							
5	Khan Mohd Afzal Dildar Husain							
6								

Course coordinator

BUTNS SANGHA'S S. M. SHETTY COLLEGE OF SCIENCE, COMMERCE & MANAGEMENT STUDIES ★ POWAI MUMBAI-76

Course Teacher

Namrata Dube
Statistics / Maths

FYBSC DATA SCIENCE

MATHEMATICS BRIDGE COURSE EXAMINATION-2022

ATTENDANCE SHEET-2022

	Time/Date	10.20 – 12.00	10.20 – 12.00	10.20 – 12.00	10.20 – 12.00	10.20 – 12.00	10.20 – 12.00	10.20 – 12.00
	Topic Covered	Measurement of angles	Teignometric Functions	Teignometric functions of compound Angles	factorization formulae	Linear Inequations	Determinants Logarithms	Sequences
Sr. No.	**Name of the Students**	Date 11-11-22	17-11-22	24-11-22	01-12-22	08-12-22	10-12-22	12-12-22
1	Bhanushali Dhaval Deepak							
2	Gore Sanskruti Anuroop	Gore	Gore	Gore	Gore	Gore	Gore	Gore
3	Jalindre Mehul Praful							
4	Kazi Alfiya Hanif							
5	Khan Mohd Afzal Dildar Husain							
~~6~~								

Course Coordinator

M. S. SHETTY COLLEGE OF SCIENCE, COMMERCE & MANAGEMENT STUDIES ★ BUTIBA SANGHA'S
POWAI MUMBAI-76

Namrata Dube

Course Teacher

Mathematics/stat

FYBSC DATA SCIENCE		
MATHEMATICS BRIDGE COURSE EXAMINATION-2022		
ATTENDANCE SHEET-2022		
Sr. No.	**Name of the Students**	**Signature**
1	Bhanushali Dhaval Deepak	
2	Gore Sanskruti Anuroop	
3	Jalindre Mehul Praful	
4	Kazi Alfiya Hanif	
5	Khan Mohd Afzal Dildar Husain	
6		

Course coordinator

Supervisor

FYBSC DATA SCIENCE

MATHEMATICS BRIDGE COURSE EXAMINATION-2022

Marks SHEET-2022

Sr. No.	Name of the Students	Marks
1	Bhanushali Dhaval Deepak	43
2	Gore Sanskruti Anuroop	36
3	Jalindre Mehul Praful	20
4	Kazi Alfiya Hanif	22
5	Khan Mohd Afzal Dildar Husain	20
6		

BOTHRA SANCHAYA M. S. SHETTY COLLEGE OF SCIENCE, COMMERCE & MANAGEMENT STUDIES
POWAI
MUMBAI-76

Course Coordinator

Teacher 1

Teacher 2

FYBSC DATA SCIENCE

MATHEMATICS BRIDGE COURSE EXAMINATION-2022

Subject- Mathematics Max Marks. 50 Marks

Duration: **1 hour 30 mins**

Q.1) Attempt any FIVE 25 marks

1. Solve: $2(x-1) < 3x-2$ where $x \in \{-3, -2, -1, 0, 1, 2, 3\}$ 5 marks

2. A card is drawn from a well shuffled pack of cards. Find the probability that it is 5 marks
   (i) a red card
   (ii) a black queen
   (iii) a red picture card

3. From the following data, find the mean marks. 5 marks

Marks	0-10	10-20	20-30	30-40	40-50
No. of students	10	8	15	20	9

4. Factorize: (i) $10ab + 4a + 5b + 2$ 5 marks
   (ii) $x^2 - 16$

5. If 4, 7, 10, 13, 16, 19, 20..... is a sequence, then find 5 marks
   (i) common difference
   (ii) n^{th} Term
   (iii) 21^{st} term.

6. Find the sum of first five terms of geometric progression (G.P.) 5 marks
   2, 8, 32, 128, 512.....

7. Find the arithmetic mean for the following frequency distribution. 5 marks

Age in years	0-20	20-40	40-60	60-80	80-100
No. of persons	4	5	8	11	5

Q.2 Attempt any FIVE 25 marks

1 Solve following: 5 marks
   i. $\frac{8!}{6!}$
   ii. $5! \times \frac{6!}{3!}$
   iii. $5!$

2 Find the derivatives of following 5 marks
   i. $\log x$
   ii. $x \times \sin x$
   iii. $\frac{x^2}{e^x}$

3 What is permutation. In how many ways 5 people can be arranged on two chairs? 5 marks

4 What is combination. How many teams of 4 members can be formed out of 6? 5 marks

5 Find the determinants of following matrices 5 marks

i. $\begin{bmatrix} 6 & 1 \\ 2 & -4 \end{bmatrix}$

ii. $\begin{bmatrix} 4 & -1 & 2 \\ 0 & -2 & 3 \\ 4 & 6 & 8 \end{bmatrix}$

6 State the value of following trigonometric functions: 5 marks

i. $\sin\frac{\pi}{6}$
ii. $\tan\frac{\pi}{2}$
iii. $\cos n\pi$
iv. $\sec\frac{\pi}{3}$
v. $cosec\frac{\pi}{4}$

7 In how three-digit numbers can be formed using 0, 1, 2, 3, 4, 5. 5 marks

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