Meeting of the Board of Studies of Mathematics & Statistics
Sophia College (Autonomous)

Date: 16.03.2019 **Time:9.30 A.M.** **Venue: Conference Room**

Name	Designation	Signature
Ms. Sandra Mendes	**Chairperson** Associate Prof. &Head, Department of Mathematics & Statistics, Sophia College, Mumbai.	
Ms. Vidya Konar	**Faculty Member Co-opted** Ad-Hoc Prof. Department of Mathematics & Statistics, Sophia College, Mumbai.	
Mrs. Chitra Paranjpe	**Vice Chancellor's Nominee** Associate Professor and Head of the Department of Mathematics, Kirti M Doongursee College of Arts, Science & Commerce, Mumbai.	
Mrs. Pradyna Kandeparkar	**Subject Expert** (from outside parent university): Senior Adjunct Professor, Dept of Statistics SVK's NMIMS University, Mumbai.	
Dr. Ananthnarayan Hariharan	**Subject Expert** (from outside parent university): Assistant Professor, Department of Mathematics, IIT Bombay	
Mrs. Myrtle C Fernandes	**Subject Expert**: Associate Professor and Head, Department of Statistics, St. Xavier's College – Autonomous, Mumbai	
Dr. Sushil Kulkarni	**Subject Expert** Associate Professor and Head, Department of Maths, Jai Hind College of Science and Commerce Autonomous, Mumbai	
Mrs. Reena Shah	**Subject Expert** Assistant Professor and Coordinator, B.Sc(Comp. Sc.), Mulund College of Commerce, Mumbai.	
Mrs. Harshada Shringarpure	**Representative from the Industry or the Corporate Sector / Allied Area.** Chief Manager – Actuarial (Valuation team lead), Kotak Mahindra Life Insurance Company Ltd.,Mumbai.	
Ms. Gayatri Maniar Shah	**Post-Graduate Meritorious Alumnus:** Member, Leadership& Professional Development Team, CREDIT SUISSE BUSINESS ANALYTICS INDIA PVT LTD, MUMBAI .	

Date: 16th March 2019. STATISTICS

Reading the minutes of the previous meeting scheduled on 29th September 2018. 0 credits

Members
- Sandra Mendes
- Vidya Kowar
- Chitra Paranjpe
- Pradyna Kandpalkar
- Dr. Ananthnarayan Hariharan
- Dr Sushil Kulkarni
- Reena Nagda
- Harshada Shringarpure
- Gayatri Maniar Shah.

Verify the practicals offered in the BA. Course.

Verify the credits for all papers in Statistics.

	(Credits)	
Paper 1	2	FYBSC
Paper 2	2	
Paper 3	2	
Practicals	2.	

FYBA (Credits) per semn.

Paper 1	2	FYBA / SYBA
Paper 2	2	
Paper 3	2.	
Practical	FYBA: 1 SYBA: 2	

Change the course codes.

Paper II → Chi - square
- Test of goodness of fit
- Test of independence of attributes.
(derivation in a contingency Yates (correction) changed this)

Statistical Methods.

Unit II : (1) discrete random variable (change in name)

Paper:
Unit II: Graphical represen / frequency distrib.
(learn to check)

SEMESTER III:
Unit II: Game Theory.
(i) as is
(ii) Graphical solution of (2 x n) & (m x 2) game.
Odds Ratio Solving game using LPP (addition)

Paper Name: ~~add paper name~~ Operation Research.
Unit III: Assignment Problem & sequencing.
* Assignment.
(i)
(ii) → as is
(iii)
Sequencing :- as is.

PAPER PATTERN

→ Internal assessment - 25 (remove word examin)
project/test (20) class partici. (5)
- remove table.

Practicals
- Using all practicals using Excel & R.
↳ learn to check and get back.
↳ all practicals do be done on excel/R.
→ ~~Current~~ batch to teach the current batch.
↳ department to check on this same

REFERENCE
- add the year of the reference books

- Discussion on Feedback
  Is first version concluded
  → good feedback
  → 2 way feedback ← students / lecturers.
  → Can introduce data analytics
  - student feedback on Moodle changes using simulation.

Date: 16th March 2019.

MATHAMATICS

Paper I - Semester I (Calculus I) (15 lec)

Unit I (i) as is

(ii) Cauchy-Schwarz - as is statement ip

(iii) bounded sets, l.ub; g.ub ~~as to remove g.ub & l.ub~~ axiom

" supremum & infimum.

Archemedean property & its application, density of rationals & irrationals.

Paper II - Algebra & discrete maths I.

Unit I : functions & Binary operations (earlier Unit III)

II : Integra^n (earlier unit

III : Equivalence relations. (earlier unit II) (I)

Paper I - Semester I (Calculus I)

Unit II : Limits of real value function (15 lec)

(i) - as is

(ii) as is

(iii) remove fx.

definition and examples of limit of a function, left hand limit, right hand limit, uniqueness of limit if it exists, algebra of limits, limit of composite function, sandwich theorem, non-existence of limits.

Paper I (Calculus I) (15 lec)

Unit III : Continuous func^n.

(i) as is - remove ~~ad~~ examples of sequen^al contin

(ii) as is.

(iii) remove word statement - rest as is

Reference: + S-Kumaresan.

i) Ajit Kumar, → should go in main ref.

~~ii) Introduction~~.

Paper II : Algebra & discrete Mathematics.

References
↳ Foundation Course in Mathematics (Introduce this ref.) Ajit Kumar, Kumaresan, Bhaba Sarma (Publisher: Narosha)

Paper I (Sem II) - Calculus II.

Suggested list of practicals. — Paper I, Paper II → as is.

→ Unit I - as in Unit III
Unit II - as in Unit I
Unit III - move this to unit (I) in Unit III ~~becomes~~ Unit II is now Unit III

Sem II : ~~Dis~~ Algebra & discrete maths.

Add: Semester details & paper details

Unit (I) : Polynomials.

Unit (i) : ↳ remove word 'without proof'.

Unit (ii) Counting principals ↳ remove word 'without proof'.

(iii) $\sqrt{p}$ is not a rational no. (change word irrational)

ity".

Unit (III) Complex numbers - as is.
(i) as in the Syllabus
(ii) as in the syllabus
(iii) as in the syllabus.
(iv) add: Fundamental theorem of algebra and roots of polynomials over R.
↳ department to check on feasibility.

Reference:
- Additional ref: - remove Briggs book.
- main ref - elementary no. (as is)
Norman Briggs (addn.)
Kenneth Rosen (add)

Sandeep