

Semester Lecture Plan

Name of the college: Government college of Arts Science and Commerce ,Sankhali

Name of Faculty: Deepak Bandiwadekar

Subject: Mathematics

Paper code: MAT 202 ANALYSIS

Program/Course: SYBSC

Division:

Academic year: 2024- 2025

Semester:IV

Total Lectures: 60

Course Objectives: to understand the concept of convergence & divergence of real sequence & infinite series.Also about the behaviour of sequence & series of functions

Expected course Outcome: students to understand the dependence of ϵ & δ in convergence continuity

Student learning outcome: The student will be able to get a practical idea about different techniques of finding the behaviour of sequences & series

| Month | Lectures From: To: | | No. of lecture s allotted | Topic, Subtopic to be covered | Exercises/ assignment | ICT Tools | Reference books |
|----------|-----------------------|------|------------------------------------|--|--------------------------|-------------------|---|
| December | 9th | 14th | 04 | Introduction Revision of Convergence of sequence ,uniqueness of limits | | Chalk & duster | Elements of Real Analysis Shantinayakan & Dr. M.D.Raisinghani |

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|------------------------------|-------------|-------------|-----------|---|---|--|--|
| | 16th | 21st | 02 | Algebra of sequences | Examples using ϵ & δ | | |
| January | 2nd | 4th | 02 | Algebra of sequences | | | Real Analysis by Ajit kumar & Kumaresan |
| | 6th | 11th | 04 | Sandwich theorem, Monotonic sequences | Examples on monotonic sequences | | |
| | 13th | 18th | 04 | Subsequences & Cauchy sequences | Examples on Cauchy sequences using ϵ & δ | | |
| | 20th | 25th | 04 | Geometric series/harmonic series/Positive term series | Examples on comparison test first form | | |
| January/ February | 27th | 1st | 04 | Positive term series-ratio test/root test/ integral test | Examples of behavior of series | | |

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| | 3rd | 8th | 04 | Condensation test/ alternating series | Examples for practice | | |
| | 10th | 15th | 04 | rearrangemnts | Examples for practice | | |
| | 17th | 22nd | 04 | Sequence of functions | Examples for practice | | |
| February/ March | 24th | 1st | 04 | Sequence of functions | Examples for practice | | |
| | 3rd | 8th | 04 | Sequence of functions | Examples for practice | | |
| | 10th | 15th | 04 | Sequence of functions | Examples for practice | | |
| | 17th | 22nd | 04 | Series of functions | Examples for practice | | |

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| | 24th | 29th | 04 | Series of functions | Examples for practice | | |
| March/ April | 31st | 5th | 04 | Series of functions | Examples for practice | | |
| | 7 th | 11th | | Series of functions & revision | | | |

*** Assessment Rubrics**

| Component | Max Marks |
|--------------------------|------------------|
| ISA 1 | 10 |
| ISA 2 | 10 |
| ISA 3 | 10 |
| Project | -- |
| Semester End Exam | 80 |