

Internal Examination – Semester-III

Course: MATH-H-GE-T-03

Course title: Differential Calculus

1. Expand $\log(1 + x)$ using Maclaurin's theorem using Cauchy's form of remainder. 10

Send answer sheet in the following mail id:

samiransenapatinvc@gmail.com

Internal Examination – Semester-III

Course: MATH-G-CC-T-03

Course title: Real Analysis

1. Prove that if $\sum_{n=1}^{\infty} a_n$ is a convergent series then $\lim_{n \rightarrow \infty} a_n = 0$ but the converse is not true. 5
2. Prove that every convergent sequence is a Cauchy sequence. 5

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debiipsitacharya@gmail.com

Internal Examination – Semester-III

Course: MATH-G-SEC-T-1A

Course title: Logic and Sets

1. Verify De Morgan's law using Venn diagram. 5
2. Using truth table prove that

$$(p \wedge q) \vee r = (p \vee r) \wedge (q \vee r)$$

5

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