43 Lecture - MTH101

Important Mcqs

Which of the following tests is used to determine if a series is absolutely convergent?

A) Ratio test

B) Integral test

C) Root test

D) Comparison test

Answer: C) Root test

Which of the following series is convergent?

A) ? n=1 to infinity (1/n)

B) ? n=1 to infinity (1/(n^2))

C) ? n=1 to infinity (1/n^3)

D) ? n=1 to infinity (n^2)

Answer: B) ? n=1 to infinity (1/(n^2))

Which of the following convergence tests is based on comparing the given series with a simpler series whose convergence or divergence is known?

A) Root test

B) Ratio test

C) Comparison test

D) Integral test

Answer: C) Comparison test

Which of the following series is divergent?

A) ? n=1 to infinity (1/2^n)

B) ? n=1 to infinity (1/n!)

C) ? n=1 to infinity (n/2^n)

D) ? n=1 to infinity (1/n)

Answer: B) ? n=1 to infinity (1/n!)

Which of the following tests is used to determine if a series is conditionally convergent?

A) Alternating series test

B) Divergence test

C) Integral test

D) Comparison test

Answer: A) Alternating series test

Which of the following tests can be used to determine the convergence of a series with positive terms?

A) Divergence test

B) Ratio test

C) Integral test

D) Root test

Answer: D) Root test

Which of the following tests is used to determine the convergence of an alternating series?

A) Ratio test

B) Integral test

C) Root test

D) Alternating series test

Answer: D) Alternating series test

Which of the following tests can be used to determine the convergence of a series with negative terms?

A) Integral test

B) Comparison test

C) Root test

D) Divergence test

Answer: B) Comparison test

Which of the following series is convergent?

A) ? n=1 to infinity (n/2^n)

B) ? n=1 to infinity (1/n^2 + 2)

C) ? n=1 to infinity (1/ln(n))

D) ? n=1 to infinity (n^(3/2)/(n^2 + 1))

Answer: A) ? n=1 to infinity (n/2^n)

Which of the following convergence tests is used to determine the convergence of a series with non-negative terms, but whose terms do not approach zero?

A) Ratio test

B) Root test

C) Integral test

D) Divergence test

Answer: D) Divergence test