Name: _____ Reg No: | | | | | | | | | |

Quiz II

Sikkim Manipal Institute of Technology
Department of Mathematics
BCA (II Sem)
Subject: Mathematics II (MA 1204)
Quiz II

Dur: 15 mins | 29.03.2019 | Max: 5 marks

Instructions

(i) Answer all the questions.

(ii) Each questions carry **ONE** mark (No partial marking)

(iii) Use only the back side of this question paper for rough work.

1. The determinant of the matrix $\begin{bmatrix} -1 & 0 \\ -2 & 3 \end{bmatrix}$ is _____.

   (a) -1 (b) -2 (c) 3 (d) -3

2. Which one of the following is true about the matrix $A = \begin{bmatrix} -1 & 1 \\ -1 & 1 \end{bmatrix}$?

   (a) Inverse of A exists (b) Determinant of A is 1

   (c) Inverse of A^2 exists (d) None of these

3. For an infinite series $\sum_{n=1}^{\infty}(-1)^{n-1}u_n$, which of the following statement is true?

   (a) $\lim_{n\to\infty} u_n = 0$ implies that $\sum_{n=1}^{\infty} u_n$ converges

   (b) $u_n - u_{n+1} > 0$ implies that $\sum_{n=1}^{\infty} u_n$ converges

   (c) Only if both (a) and (b) satisfies $\sum_{n=1}^{\infty} u_n$ converges

   (d) None of these

4. The series $\sum_{n=1}^{\infty}\frac{1}{n^p}$ is _____

   (a) Converges only if $p < 1$ (b) Converges for $p = 4$

   (c) Oscillates if $p \geq 100$ (d) None of these

5. Which can be an appropriate test to test the convergence of the series $\sum_{n=1}^{\infty}\frac{1}{n^2+1}$?

   (a) Comparison Test (b) Cauchy's Root Test (c) Leibnitz's Test (d) None of these

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1. (d) -3

2. (d) None of these

3. (c) Only if both (a) and (b) satisfies $\sum_{n=1}^{\infty} u_n$ converges

4. (b) Converges for $p = 4$

5. (a) Comparison Test