NATIONAL SCHOOL OF BUSINESS MANAGEMENT

BSc in Management Information Systems (Special) (NSBM)– 21.1
BSc (Honours) in Software Engineering (NSBM)– 21.1
BSc (Honours) in Computer Networks (NSBM)– 21.1
BSc (Honours) in Computer Science (NSBM)– 21.1
BSc (Honours) Software Engineering (PU)– 21.1
BSc (Honours) Computer Networks (PU)– 21.1
BSc (Honours) Computer Science (PU)– 21.1
BSc (Honours) Computer Security (PU)– 21.1
Bachelor of Information Technology (NBIT): major in Web and Mobile Application Development (VU)– 21.1

Year 01 Semester 01Examination

28ᵗʰ October 2019

MA 001.3 – Mathematics for Computing

Instructions to Candidates

1) Answer all the questions.

2) **Time allocated for the examination is five (05) hours (Including downloading and uploading time)** . (Note: **No email submissions are accepted under any condition.**)

3) Weightage of Examination: 60% out of final grade

4) Download the paper, provide answers to the selected questions in a word document.

5) Please upload the document with answers (Answer Script) to the submission link before the submission link expires

6) Answer script should be uploaded in PDF Format

7) Under any circumstances E-mail submissions would not be taken into consideration for marking. Incomplete attempt would be counted as a MISSED ATTEMPT.

8) The Naming convention of the answer script – Module Code_Subject name_Index No

9) You must adhere to the online examination guidelines when submitting the answer script to N-Learn.

10) Your answers will be subjected to Turnitin similarity check, hence, direct copying and pasting from internet sources, friend's answers etc. will be penalized.

Question 1: Numbers, Indices & Surds

- Real Numbers
- Rational Numbers
- Irrational Numbers
- Integers
- Natural Numbers
- Prime Numbers
- Rules of Indices

Question 2 : Set Theory

- Describing sets, notation, examples
- Set equality
- Membership relationships
- Set Operations- Union, Intersection, Complement and Difference
- Venn Diagrams
- DE Morgan's Laws for sets
- Set partition
- Cardinality, Power set, Relations, Cartesian product, Functions

Question 3: Proportional Logic

- What is a Proposition
- Logical Operations
- Truth Tables
- Examples using Truth Tables
- Tautology
- Contradiction
- Contingent Proposition
- Tautology/Contradiction Examples

Question 4: Matrices

- What is a matrix?
- Different types of matrices
- Matrix Operations
- Solving a System of Linear Equations using Matrix Inversion

Question 5 : Coordinate Geometry

- Equation of a straight line
- Parallel lines
- Perpendicular lines

- Distance between two points
- Midpoint between two points
- Perpendicular Distance from a point to a line
- Equation of a circle
- Polar Coordinates
- Tangent to a circle