

Examination Roll no.....

Unique Paper Code : 12483301

Name of the Paper : Introduction to Big Data Analysis

Name of the Course : B.A. (HONS.) BUSINESS ECONOMICS

Semester : III

Duration : 3 hours

Maximum Marks : 75 Marks

Instructions for Candidates:

- 1. Attempt any four questions. All questions carry equal marks.**
- 2. All the commands and programs must be written on the answer sheet with own handwriting which must be easy to read, legible with no overwriting or cutting of letters, words or numbers.**
- 3. If any assumptions are made while attempting a problem, the same must be stated clearly.**

Q1. (a) What is Machine Learning. Distinguish between supervised, unsupervised and reinforcement learning.

(b) Give two domains where Machine learning is widely used nowadays.

(c) Explain using a program the execution of 'for' and 'while' loops in python

(d) What are tuples and how these are different from lists. Discuss the forward and backward indexing of a tuple.

Q2. (a) What shall be the output under Python of the following variable 'R' ?

$R = (2 * (10 // 33 / 1) + (2 ** 2)) - 4.5$

(b) Write the python commands and provide the solution to the following where a, b and c take values as a=3, b= 5, c=2. Take 'e' =2.718

(i) $\sqrt{a^a + b^2 + c^c}$

(ii) $|e^2 - c * a|$

(iii) $12 - ae^{2c} - 4c$

(c) What shall be the command to generate single random no. between 2 and 10, but the number must be an even number

(d) Use Math module to find out area of a circle with radius = 5 cm.

Q3(a) Create a program that reads two numbers, num1 and num2, from the user. Your program should compute and display:

- i. The sum of two numbers
- ii. The product of two numbers
- iii. The quotient when num2 is divided by num1
- iv. The remainder when num1 is divided by num2

(b) Define a variable BBE. Develop a program for this variable so that it prints current date, previous day's date and next day's date with time

(c) Write a program to achieve the given output using loops.

(line1) 7,(line2) 77, (line3) 777, (line4) 7777.

Q4.(a) What are the usefulness and challenges in connection with big data.

(b) Explain three applications of Big Data which we notice on day-to-daybasis

(c) Give a brief description of increase in size of Big Data over the years

(d) State the 5 V's of Big Data

Q5. (a) You are interested in running an OLS regression under stats model with data obtained from toy data sets available at SK LEARN. In this connection you are required to clearly list different commands to achieve the desired results.

(b) In Python state the commands for the following :-

- (i) To imports data of Company called 'Info' from a Yahoo finance website between dates 1st Jan 2021 and 1st June 2021.
- (ii) To read an excel file after importing pandas
- (iii) To print first two lines and last three lines from a data
- (iv) To generate ten random numbers spread across two columns using numpy
- (v) To give entire statistical description of data with a single command
- (vi) To import math plots and calendar from pandas

Q6. Distinguish between **any four** of the following. Give your own illustrations /examples / python programmes wherever necessary.

- (i) Script mode and Interactive mode
- (ii) Sequence construct and Selection construct
- (iii)Expression and A Statement
- (iv) High Level and Low Level Language
- (v) Assignment and Indirect assignment through Input function in python
- (vi)In and Not-In Operator in python
