Acad./AC-III/Fac. 4 & BOSR-5/2021/ 9/2
Dated: 19/2/2021

To

The Controller of Examinations,
GJUS&T, Hisar.

Sub: **Approval of syllabi of "Skill Enhancement" paper of Computer Science and Computer Applications CCsL-505 Skill Enhancement Course-I (Computer Science) (CLOUD COMPUTING) and CCaI-505 Skill Enhancement Course-I (Computer Application) (PYTHON PROGRAMMING) as per the scheme of examinations of B.Sc. (Physical Sciences) being run in the affiliated degree Colleges. w.e.f. the batch of academic session 2018-19 onwards.**

Sir,

I am directed to inform you that the Vice-Chancellor, on the recommendations of Dean, Faculty of Physical Sciences & Technology and Chairperson, Department of Computer Science & Engineering, is pleased to approve the Skill Enhancement paper code of CCsL-505 Skill Enhancement Course-I (Computer Science) "CLOUD COMPUTING" for Computer Science and CCaI-505 Skill Enhancement course-I (Computer Application) "PYTHON PROGRAMMING" for Computer Application as per scheme of examinations of B.Sc. (Physical Sciences) being run in the affiliated degree Colleges w.e.f. the batch of academic session 2018-19 onwards, under Section 11(5) of the University Act, 1995 in anticipation of approval of the Academic Council.

A copy of the syllabi of above said papers are enclosed herewith.

You are therefore, requested to take further necessary action, accordingly.

DA: As above

19.2.2021
Assistant Registrar (Academic)
for Registrar

Endst. No.Acad./AC-III/Fac.4 &BOSR-5/2020/ 9/3 – 940 Dated: 19/2/2021

A copy of the above is forwarded to the following for information and necessary action:-

1. Dean, Faculty of Physical Sciences & Technology, GJUS&T, Hisar. He is further requested to get upload the above said papers on the University website.

2. Chairperson, Department of Computer Science & Engineering, GJUS&T, Hisar.

3. Principals of concerned Affiliated degree Colleges, GJUS&T, Hisar alongwith syllabi of above said papers.

4. SVC (for kind information of the Vice-Chancellor), GJUS&T, Hisar.

5. Supdt. O/o of Registrar (for kind information of the Registrar), GJUS&T, Hisar

19.2.2021
Assistant Registrar (Academic)
for Registrar

Skill Enhancement Course-I (Computer Science)
CLOUD COMPUTING
(Credits: 02, 30 Hrs (2Hrs /week))

Marks for Major Test (External): 50
Marks for Internal Exam: 50
Time: 3 Hours

Paper setter is required to set nine questions in all. Question no. 1 is compulsory and is based on the entire syllabus consisting of eight to ten short answer type questions each of 2 marks. The remaining eight questions are to be set uniformly having two questions from each unit. The student is required to attempt five questions in all selecting one question from each unit and Question No. 1 is compulsory.

UNIT -I

Cloud Computing: Introduction to client server computing, Peer to Peer computing, Distributed computing, collaborative computing and cloud computing, Importance of cloud computing in current era, Characteristics, advantages and disadvantages of cloud computing.

UNIT -11

Cloud Services: Functioning of cloud computing, Classification of cloud Based on services: Software as a Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (Iaas): Definition, characteristics and their benefits.

UNIT- 111

Cloud Architecture: Cloud computing Logical and service architecture, Types of clouds: Private cloud, Public cloud and Hybrid cloud, Comparison of a private, public and hybrid clouds, migrating to a cloud, Seven step model to migrate.

UNIT -1V

Applications: Business opportunities using cloud, Managing Desktop and devices in cloud, cloud as a type of distributed infrastructure, Application of cloud computing for centralizing Email communication, collaboration on schedules, calendars.

CASE STUDY: Overview of major cloud service providers - Amazon Ec2, Google App Engine, Google Drive, etc.

Suggested Readings:

1. Srinivasan, A. Cloud Computing: A Practical Approach for Learning and Implementation. Pearson Education India, 2014.

2. Velte, Anthony T., Toby J. Velte, Robert C. Elsenpeter, and Robert C. Elsenpeter. Cloud computing: a practical approach. New York: McGraw-Hill, 2010.

Skill Enhancement Course-I (Computer Application)
PYTHON PROGRAMMING
(Credits: 02, 30 Hrs (2Hrs /week))

Marks for Major Test (External): 50
Marks for Internal Exam: 50
Time: 3 Hours

Paper setter is required to set nine questions in all. Question no. 1 is compulsory and is based on the entire syllabus consisting of eight to ten short answer type questions each of 2 marks. The remaining eight questions are to be set uniformly having two questions from each unit. The student is required to attempt five questions in all selecting one question from each unit and Question No. 1 is compulsory.

UNIT - I

Introduction to Python: History and Features of Python Programming, Python Interpreter. Variable, identifiers and literal. Token, keywords. Data Types. Arithmetic operators, Relational operators, Logical operators, Bitwise operators, Assignment operators, Membership operators, Identity operators. Operator precedence. Comment, Indentation, Need for indentation

Built-in Functions: input, eval, composition, print, type, round, min and max, pow. Type Conversion, Random Number Generation. Mathematical Functions. Getting help on a function, Assert Statement.

UNIT - II

Control Statements: if Conditional Statement, for and while Statements. break, continue and pass statements.

Functions: Function Definition and Call, Function Arguments-Variable Function Arguments, Default Arguments, Keyword Arguments, Arbitrary Arguments. Command Line Arguments. Global and local Variables. Accessing local variable outside the scope, Using Global and Local variables in same code, Using Global variable and Local variable with same Name.

UNIT - III

Strings: String as a compound data type. String operations- Concatenation, Repetition, Membership operation, Slicing operation. String methods-count, find, rfind, capitalize, title, lower, upper, swapcase, islower, isupper istitle, replace, isalpha, isdigit, isalnum. String Processing examples.

Lists: List operations-multiplication, concatenation, length, indexing, slicing, min, max, sum, membership operator; List functions-append, extend, remove, pop, count, index, insert, sort, reverse.

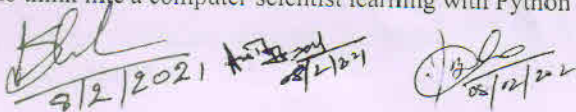**Recursion:** Recursive solutions for problems on Numbers, String and list.

UNIT - IV

Object Oriented Programming: Introduction to Classes, Method, Class object, Instance object, Method object. Class as abstract data type, Date Class. Access attributes using functions-getattr, hasattr, setattr, delattr. Built-In Class Attributes of Class object (__dict__, __doc__, __name__, module__).

Graphics: Screen Objects- Point and line, box, polygon, circle, arc. Screen Object Methods- move_to(), move_by(), rotate_by(), Text(). Sound- Sound(), play_sound(), stop_sound().

Suggested Readings:

1. Sheetal Taneja and Naveen Kumar, "Python Programming A modular Approach", Pearson

2. P. K. Sinha & Priti Sinha , "Computer Fundamentals", BPB Publications, 2007.

3. Dr. Anita Goel, "Computer Fundamentals", Pearson Education, 2010.

4. Allen Downey, Jeffrey Elkner, Chris Meyers.How to think like a computer scientist learning with Python / 1st Edition,2012 .