2018.2.20 **<u>विश्वविद्यालय के आगामी शैक्षणिक सत्र 2018-19 हेतु विभिन्न विभागो द्वारा परास्नातक पाठ्यक्रमों में किये गये संशोधनों (परास्नातक पाठ्यक्रमों में कोई नया विषय आरम्भ किया जाना है, किसी विषय के **Credit Structure** में कोई संशोधन किया जाना है अथवा किसी विषय के पाठ्यक्रम में संशोधन) पर विचार एवं अनुमोदन।</u>**

विश्वविद्यालय के आगामी शैक्षणिक सत्र 2018-19 हेतु विभिन्न विभागो द्वारा परास्नातक पाठ्यक्रमों में किये गये संशोधनों यथा नया विषय आरम्भ किया जाना, किसी विषय के Credit Structure में कोई संशोधन अथवा किसी विषय के पाठ्यक्रम में किये गये संशोधन विद्या परिषद के माननीय सदस्यों के अवलोकनार्थ पृष्ठ संख्या 349 से पृष्ठ संख्या 482 पर प्रस्तुत है:-

विभाग	पाठ्यक्रम	प्रभावी होने का सत्र
जनपदीय अभियंत्रण विभाग	एम0टेक0	2018-19
कम्प्यूटर साइंस एण्ड इंजी0	एम0टेक0	2018-19
	एम0सी0ए0	2018-19
विद्युत अभि0 विभाग	एम0टेक0	2018-19
विद्युतकण एवं संचार अभि0	एम0टेक0	2018-19
यांत्रिक अभियंत्रण	एम0टेक0	2018-19

विद्या परिषद के माननीय सदस्यों से अनुरोध है कि कृपया उक्त का अनुमोदन प्रदान करने की कृपा करें।

Minutes of the Board of Studies meeting held in the Karmarkar Hall on 21.05.2018 at 10:30 AM. Following members were present:

1. Dr. Rakesh Kumar	Chairman
2. Sri Harshit Tiwari	System Engineer, TCS-Lucknow (External Member)
3. Dr. Udai Shanker	Professor
4. Dr. P. K. Singh	Professor
5. Dr. A. K. Sharma	Professor
6. Dr. A. K. Daniel	Professor
7. Dr. U. C. Jaiswal	Professor
8. Dr. S. P. Singh	Professor
9. Dr. Shiva Prakash	Professor (On leave)
10. Dr. Divakar Yadav	Assoc. Prof.
11. Sri D. S. Singh	Assoc. Prof.
12. Sri Jay Prakash	Assist. Prof. (On leave)
13. Sri M. K. Srivastava	Assist. Prof.
14. Sri M. Hasan	Assist. Prof.
15. Ms. Meenu	Assist. Prof.
16. Sri R K Dwivedi	Asstt. Prof.
17. Sri R. K. Tiwari	Assist. Prof.
18. Sri S. K. Saroj	Assist. Prof.
19. Dr. N. P. Singh	Assist. Prof.
20. Dr Harish Chandra	Assist. Prof., ASD (Special invitee)

Following External Members could not attend the meeting due to their pre-occupancy in their parent organization

1. Prof. A.K. Singh, NIT-Kurukshetra
2. Prof. M.M. Gore, MNNIT- Allahabad
3. Dr. S.K. Singh, IIIT-Allahabad

The following decisions were taken-

1. Committee thoroughly look into the present M.Tech (CSE & IT) course curriculum and finalized revised course structure/syllabi as per the industry need to enhance the student's employability. (attached at Annexure-1)
2. Committee thoroughly look into the present B.Tech CSE and MCA course curriculum and finalized revised syllabus of some subjects as per the industry need to enhance the student's employability. (attached at Annexure-2 & Annexure- 3 respectively).
3. Dr Harish Chandra, ASD agreed to float the subject :Mathematical Foundations of Computer Science (MAS-213) from his department.

Finally, the meeting ended with vote of thanks to the chair.

N. P. Singh | S. K. Saroj | R. K. Tiwari | R K Dwivedi | Smt. Meenu

M. Hasan | M. K. Srivastava | D. S. Singh | Divakar Yadav

S. P. Singh | U. C. Jaiswal | A. K. Daniel | A. K. Sharma

P. K. Singh | Udai Shanker | Harshit Tiwari | Harish Chandra

21/5/2018

Rakesh Kumar

ANNEXURE-3

MCA-161 INTRODUCTION TO PROGRAMMING USING PYTHON 4 Credits (3-1-0)

Course Objectives:

The course objectives of the course are-

1. To give introductory knowledge of Python
2. To provide various syntax and concepts of python
3. To improve problem solving skill

Learning Outcomes:

Upon completion of this course. students will be able to:

1. Use correct Python syntax in Python programs
2. Use the correct Python control flow construct
3. Use many of the standard Python modules such as os, sys, math, and time
4. Create their own classes and use existing Python class
5. Implements problems using Python

UNIT-I: Introduction to Python 9

Introduction- History, Features, Basic Syntax, Interacting with Python Program, Elements of Python- Data types, variables, immutable variables, Operators, expressions, Control Statements, loops, Short-Circuit (lazy) Evaluation, Functions.

UNIT - II List, Tuples, Dictionary and Module 9

Lists and Tuple: Introduction to List and Tuple, Accessing List and Tuple, Operations, working with List and Tuple, Function and Methods. Dictionaries: Working with dictionaries, properties and functions. Module: Importing Module, Math Module, Random Module, Package, Composition and The Distribution Utility (disutil).

UNIT III String, Text File and Graphics 9

Strings and text files, manipulating files and directories, os and sys modules; reading/writing text file; creating and reading a formatted file (csv or tab-separated).

String manipulations: subscript operator, indexing, slicing a string

Simple Graphics and Image Processing: turtle module; simple 2d drawing - colors, shapes; digital images, image file formats, image processing, Simple image manipulations with image module

UNIT IV Advanced Python 9

Classes and OOP: classes, objects, attributes and methods, inheritance, polymorphism, operator overloading.

Networking and Web Programming: URL Access, Email Protocols, The HTTP and FTP Protocols, Network News, Telnet, The Socket Module, TheSocketServer Module, Event— Driven Socket Program.

Books & References

1. Python in a Nutshell by Alex Martelli, Oreilly Publication.
2. Think Python by Allen Downey, Green Tea Press
3. Ken Lambert, "Fundamentals of Python: First Programs.
4. Willi Richert," Luis Pedro Coelho," Building Machine Learning Systems with Python.
5. Cody Jackson ,"Learning to Program Using Python.
6. Ljubomir Perkovic," Introduction to Computing Using Python

MCA-120 OBJECT ORIENTED ANALYSIS & DESIGN 5 Credits (3-1-2)

Course Objectives:

Students will be explored to different OMT and UML techniques of object-oriented modelling and design. They will also be able to design & develop object-oriented models for various real world applications.

Learning Outcomes:
On successful completion of the course, the student will:

1. Understand the concepts of various design models for several real-world applications
2. Analyze the OMT and UML modelling techniques
3. Design applications in different domains using object-oriented programming

UNIT I 9

Fundamentals: Models: Principles of modeling, Importance of modeling, Abstraction; Object Modeling Techniques (OMT): Object Model, Dynamic Model, Functional Model; Unified Modelling Language (UML): Structural Modelling, Behavioral Modelling, Architectural Modelling; Object Oriented Design: Software Development Life Cycle, Object-Oriented Programming Languages, Dominant features of C++, Java and C#, Object Oriented Database design, Modern object-oriented technologies and web services.

UNIT II 9

Object Model: Object and Classes, Links and Association, Multiplicity, Aggregation, Generalization and Inheritance, Recursive Aggregates, Abstract Class, Multiple Inheritance, Candidate Keys, Constraints: Constraints on objects, Constraints on links, General Constraints, Class and Object Diagram, Class, Attributes and Methods

UNIT III 9

Dynamic Model: Events and states, Scenario and event traces, Characterization of a state, State diagram, One shot state diagram, Guard condition, Operations: activity and action, Nested State Diagrams: state generalization, event generalization, Concurrency: aggregation concurrency, Advanced Dynamic Modeling Concepts

UNIT IV 9

Functional Model: Data flow diagrams: Process, Actor, Data Store, Data Flow, Control Flow; Nested DFD; Relation of functional model with object and dynamic models

Some UML Diagrams: Use Case Diagram, Interaction Diagram, Sequence Diagram, Activity Diagram, Component Diagram, Deployment Diagram, Package Diagram

EXPERIMENTS

A. Implement all the models studied in class taking suitable examples

B. Analyze, Design and Model the following Systems using Object Oriented Methodology (one for a batch of three students)

1. ATM (Automated Teller Machine) System
2. Online Reservation System
3. Online Quiz System
4. Stock Maintenance System
5. Course Registration System
6. Payroll System
7. Expert System
8. Library Management System
9. Real Time Scheduler
10. Online Purchase System

Books & References:

1. James Rumbaugh et al, "Object-Oriented Modeling and Design", Prentice Hall
2. James Rumbaugh et.al., "Object-Oriented Modeling and Design with UML", Pearson
3. Atul Kahate, "Object Oriented Analysis & Design", The McGraw Hill Education
4. James Rumbaugh et.al., "The Complete UML Training Course", Prentice Hall