

List of New Course(s) Introduced

Department : Computer Science and Engineering

Programme Name : B.Tech.

Academic Year : 2021-22

List of New Course(s) Introduced

Sr. No.	Course Code	Name of the Course
01.	CS08PPE01	Network Security Lab
02.	CS08PPE02	Mobile Application Development Lab
03.	CS08PPE03	Cloud Computing Lab
04.	CS08PPE04	Big Data Analysis Lab


विभागाध्यक्ष
Head
संयुक्त विज्ञान एवं अभियांत्रिकी
Computer Science & Engg.
अभियांत्रिकी एवं प्रौ. अध्ययन शाला
SOS, Engg. & Technology
गु.घा. विश्वविद्यालय, बिलासपुर (छ.ग.)
S.G.Vishwavidyalaya, Bilaspur (C.G.)

Minutes of Meetings (MoM) of Board of Studies (BoS)

Academic Year : 2021-22	
School	: School of Studies of Engineering and Technology
Department	: Computer Science and Engineering
Date and Time	: 10 July 2020- 11:00 AM
Venue	: Department of CSE

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Minutes of Meeting

Today, on 10 July 2020, the Board of Studies (BOS) meeting was held through online platform ZOOM from 11:00 am onwards. The following members attended this online meeting.

1. Dr. Alok Kumar Singh Kushwaha, (Chairman of BOS)
2. Mrs Nishi Yadav (Member of BOS)
3. Mr. Amit Sharma (External Member, BOS)
4. Dr. Sanjay Kumar (External Member, BOS)
5. Dr. Manish Srivastava (Invitee Member)
6. Mr. Devendra Kumar Singh (Invitee Member)
7. Mr. Nishant Behar (Invitee Member)
8. Mr. Vaibhav Kant Singh (Invitee Member)
9. Mrs. Raksha Pandey (Invitee Member)
10. Mr. Amit Kumar Baghel (Invitee Member)
11. Mr. Satish Kumar Negi (Invitee Member)
12. Mr. Pushpendra Kumar Chandra (Invitee Member)
13. Mr. Manjit Jaiswal (Invitee Member)
14. Mrs. Princy Matalani (Invitee Member)

In this online meeting the following points have been concluded:

1. B.Tech 4th semester practical subject codes have been rectified for the session 2019 - 20.
2. In B.Tech 3rd semester course **Computer Organization Architecture** is renamed as **Computer Organization & Architecture** and will apply with effect from upcoming Session 2020-21.
3. B.Tech 2nd year (3rd semester and 4th semester) Theory and lab credit has been revised and will apply with effect from upcoming session 2020-21.
4. B.Tech 2nd year (3rd semester and 4th semester) course code is also revised and will apply with effect from upcoming Session 2020-21.
5. In B.Tech 5th semester following changes has been done and will apply with effect from upcoming Session 2020-21:
 - i. **Microprocessor** and **Data Base Management System** subject has been renamed as **Microprocessor and Interfaces** and **Relational Data Base Management System** respectively.
6. In B.Tech 6th semester following changes has been done & will apply with effect from upcoming Session 2020-21:
 - i. **Compiler Design** Subject (theory and lab) replaced with **Java** Subject (theory and lab).

- ii. In Professional Elective-I & II, **Advance Operating System** Subject replaced with *Software Testing and Quality Assurance Subject*.
- ii. In Open Elective -I, in place of these subjects (1. **Computer Graphics**, 2. **Geo- Informatics and GIS Applications**, 3. **Cloud Computing**, 4. **Distributed Systems**) the below mentioned new subjects are introduced (1. **Management Information Systems**, 2. **E- Commerce**, 3. **Human Resource Management**, 4. **Business Intelligence**)
- iv. The **Computer Graphics** subject have included in the compulsory subject.
- v. The **Management Information System** Subject is removed from the category of HumanityScience and added in Open Elective category
- 7. B.Tech 3rd year (5th semester and 6th semester) lab and project credit has been revised and will apply with effect from upcoming session 2020-21.
- 8. B.Tech 3rd year (5th semester and 6th semester) course code is also revised and will apply with effect from upcoming session 2020-21.
- 9. In B.Tech 7th semester following changes have been done and will apply with effect from upcoming Session 2021-22.:
 - i. **Web Science & Technology** (theory) have been replaced by **Compiler Design** (theory).
 - ii. **Data Mining Lab** have been replaced by **Compiler Design Lab**.
 - ii. In Professional Electives
 - (a) **TCP/IP** subject have been renamed as **TCP/IP Internetworking**.
 - (b) **Pattern Recognition** and **Digital Signal Processing** have been replaced with **WebTechnology** and **Cyber Crime & Security** respectively.
 - iv. In Open Electives subject
 - (a) **Java** has been replaced with **Distributed System**.
 - (b) **VB.Net** subject is renamed as **Visual Basic.Net**
- 10. In B.Tech 8th semester following changes has been done and will apply with effect from upcoming Session 2021-22.
 - i. Various Professional Elective-I lab subjects (1. **Network Security Lab** 2. **Mobile Application Development Lab** 3. **Cloud Computing Lab**, 4. **Big Data Analysis Lab**) has been introduced.
 - ii. In Professional Elective-I, subjects **Grid Computing**, **Multimedia System Design** and **Cyber Crime Security** has been replaced by subjects of **Mobile Application Development**, **Cloud Computing**, and **Big Data Analysis** respectively
 - ii. In Open Electives-I & II, subjects **Principle of Management** and **Nano Technology** has been replaced by **Information Retrieval Systems** and **Machine Learning** respectively.
- 11. B.Tech 4th year (7th semester and 8th semester) course code is also revised and will apply with effect from upcoming session 2021-22.
- 12. B.Tech 4th year (7th semester and 8th semester) lab and project credit has been revised and will apply with effect from upcoming session 2021-22.
- 13. Finalization of the PEO, PSO, and POS also has been done.
- 14. Course objective and Course outcomes has been introduced in B. Tech (2nd, 3rd, and 4th year) syllabus(theory and lab).
- 15. Syllabus of entrance examination VRET for PhD admission has been finalized.

16. All the valuable suggestions made by Internal and External members are incorporated in the Syllabus and Scheme which are enclosed here with.
17. External Member has joined the meeting through Video-Conferencing and has given his valuable suggestions which are incorporated in the Syllabus and Scheme.
18. Invited Members has joined the meeting through Video-Conferencing and has given his valuable suggestions which are incorporated in the Syllabus and Scheme.

It was agreed that the approval of external experts and invitee members on MoM along with the related documents will be sought through email, due to the present pandemic situation.

The meeting ended with vote of Thanks.


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Dr. Alok Kumar Singh Kushwaha

(Chairman of BOS)

Mr. Amit Sharma,

(External Member, BOS)

(Consent through e-mail)

Dr. Sanjay Kumar

(External Member, BOS)

(Consent through e-mail)

Invited Members	
Dr. Manish Srivastava	Consent through e-mail
Mr. Devendra Kumar Singh	Consent through e-mail
Mr. Nishant Behar	Consent through e-mail
Mr. Vaibhav Kant Singh	Consent through e-mail
Mrs. Raksha Pandey	Consent through e-mail
Mr. Amit Kumar Baghel	Consent through e-mail
Mr. Satish Kumar Negi	Consent through e-mail
Mr. Pushpendra Kumar Chandra	Consent through e-mail
Mr. Manjit Jaiswal	Consent through e-mail
Mrs. Princy Matalani	Consent through e-mail

Scheme and Syllabus

SCHEME FOR EXAMINATION B.TECH (FOUR YEAR) DEGREE COURSE COMPUTER SCIENCE AND ENGINEERING

SCHOOL OF STUDIES IN ENGINEERING & TECHNOLOGY GURU GHASIDAS VISHWAVIDYALAYA FOURTH YEAR, SEMESTER - VIII

W.E.F. SESSION 2021-22

Branch :- Computer Science & Engg.

Year : IV

Sem- VIII

S.No.	Code No.	Subject	Periods			Evaluation Scheme			Credits
			L	T	P	IA	ESE	Total	
1	CS08TPEX	Professional Elective-I	3	0	0	30	70	100	3
2	CS08TOEX	Open Elective-I	3	0	0	30	70	100	3
3	CS08TOEX	Open Elective-II	3	0	0	30	70	100	3
PRACTICAL									
1	CS08PPEX	Professional Elective-I Lab	0	0	3	30	20	50	1.5
2	CS08PPR04	Major Project -II	0	0	12	120	80	200	6
Total									16.5

Professional Elective-I Subject VIII Sem.				Open Elective-I & II Subject VIII Sem.			
S.No	Subject Code	Subject	Credits	S.No	Subject Code	Subject	Credits
1	CS08TPE13	Network Security	3	1	CS08TOE09	Enterprise Resource Management	3
2	CS08TPE14	Mobile Application Development	3	2	CS08TOE10	Information Retrieval Systems	3
3	CS08TPE15	Cloud Computing	3	3	CS08TOE11	Wireless Sensor Network	3
4	CS08TPE16	Big Data Analysis	3	4	CS08TOE12	Machine Learning	3

Professional Elective Subject Lab VIII Sem			
S.No	Subject code	Subject	Credits
1	CS08PPE01	Network Security Lab	1.5
2	CS08PPE02	Mobile Application Development Lab	1.5
3	CS08PPE03	Cloud Computing Lab	1.5
4	CS08PPE04	Big Data Analysis Lab	1.5

Sub Title: NETWORKSECURITY LAB	
Sub Code: CS08PPE01	No. of Credits : 1.5=0: 0: 1.5(L-T-P)
Exam Duration : 3 hours	IA+ESE =30+20

Lab OBJECTIVE:

1. To train more professional in the area of Network Security
2. To support in developing vulnerability free web applications
3. To support industry in Cyber security research

Unit No.	Content	Teaching Hours
I, II, III, IV and V	<ul style="list-style-type: none"> • Implement Caesar cipher encryption-decryption. • Implement Monoalphabetic cipher encryption-decryption. • Implement Playfair cipher encryption-decryption. • Implement Polyalphabetic cipher encryption-decryption. • Implement Hill cipher encryption-decryption. • To implement Simple DES or AES. • Implement Diffi-Hellmen Key exchange Method. • Implement RSA encryption-decryption algorithm. • Write a program to generate SHA-1 hash. • Implement a digital signature algorithm. • Perform various encryption-decryption techniques with cryptool. • Study and use the Wireshark for the various network protocols. 	18

LAB OUTCOMES: The students would have learnt

- CO1: Define the concepts of Information security and their use.
CO2: Describe the principles of symmetric and asymmetric cryptography.
CO3: Understand and apply the various symmetric key algorithms.
CO4: Understand and apply the various asymmetric key algorithms.
CO5: Understand the concepts of hashing with algorithms and apply them

Text Books:

1. Cryptography And Network Security, Principles And Practice Sixth Edition, William Stallings, Pearson
2. Information Security Principles and Practice By Mark Stamp, Willy India Edition
3. Cryptography & Network Security, Forouzan, Mukhopadhyay, McGrawHill

Reference Books:

1. Fundamentals of computer Algorithms, Horowitz, Sahani, Galgotia. 2nd Edition, 1998.ISBN 81-

7515-257-5

2. Cryptography and Network Security Atul Kahate, TMH
3. Cryptography and Security, C K Shyamala, N Harini, T R Padmanabhan, Wiley-India
4. Information Systems Security, Godbole, Wiley-India
5. Information Security Principles and Practice, Deven Shah, Wiley-India
6. Security in Computing by Pfleeger and Pfleeger, PHI
7. Build Your Own Security Lab : A Field Guide for network testing, Michael Gregg, Wiley India

Sub Title: MOBILEAPPLICATIONDEVELOPMENT LAB	
Sub Code: CS08PPE02	No. of Credits : 1.5=0: 0: 1.5(L-T-P)
Exam Duration : 3 hours	IA+ESE =30+20

Lab OBJECTIVE:

1. To understand the components and structure of mobile application development frameworks for Android and windows OS based mobiles.
2. To understand how to work with various mobile application development frameworks.
3. To learn the basic and important design concepts and issues of development of mobile applications.
4. To understand the capabilities and limitations of mobile devices.

Unit No.	Content	Teaching Hours
I, II, III, IV and V	<ul style="list-style-type: none"> • Develop an application that uses GUI components, Font and Colours • Develop an application that uses Layout Managers and event listeners. • Write an application that draws basic graphical primitives on the screen. • Develop an application that makes use of databases. • Develop an application that makes use of Notification Manager • Implement an application that uses Multi-threading • Develop a native application that uses GPS location information • Implement an application that writes data to the SD card. • Implement an application that creates an alert upon receiving a message • Write a mobile application that makes use of RSS feed • Develop a mobile application to send an email. • Develop a Mobile application for simple needs (Mini Project) 	18

LAB OUTCOMES: The students would have learnt

- CO1: Develop mobile applications using GUI and Layouts
CO2: Develop mobile applications using Event Listener.
CO3: Develop mobile applications using Databases.
CO4: Develop mobile applications using RSS Feed, Internal/External Storage, SMS, Multi-threading and GPS.
CO5: Analyze and discover own mobile app for simple needs

Text Books:

1. Build Your Own Security Lab, Michael Gregg, Wiley India.

Reference Books:

1. Build Your Own Security Lab, Michael Gregg, Wiley India.

Sub Title: CLOUDCOMPUTING LAB	
Sub Code: CS08PPE03	No. of Credits : 1.5=0: 0: 1.5(L-T-P)
Exam Duration : 3 hours	IA+ESE =30+20

<p>Lab OBJECTIVE:</p> <ol style="list-style-type: none"> 1. To discuss the fundamental concepts of Cloud Computing 2. To learn how to use install and configure Hadoop/MapReduce/HDFS 3. To learn how to create application using Hadoop/MapReduce 4. To learn Various Cloud services provided by Amazon Web Service etc.
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Unit No.	Content	Teaching Hours
I, II, III, IV and V	<ul style="list-style-type: none"> • Installation and configuration of Hadoop/MapReduce/HDFS • Service deployment and usage over cloud. • Create an application using Hadoop/MapReduce • Case Study: Google App Engine/ Microsoft Azure/ Amazon Web Services 	18

<p>LAB OUTCOMES: The students would have learnt</p> <p>CO1: Examine the installation and configuration of Hadoop/Map Reduce</p> <p>CO2: Describe the functioning of Platform as a Service</p> <p>CO3: Create application using Hadoop/MapReduce</p> <p>CO4: Analyze and understand the functioning of different components involved in Amazon web services cloud platform.</p>

Text Books:

1. Cloud Computing: Principles and Paradigms by Rajkumar Buyya, James Broberg, Andrzej M. Goscinski, Wiley.
2. Cloud Computing” by M. N. Rao, PHI.
3. Cloud Computing: A Practical Approach” by Toby Velte, Anthony Vote and Robert Elsenpeter, McGraw Hill.

Reference Books:

1. Cloud Computing Bible”, Barrie Sosinsky, Wiley India Edition.
2. Cloud Security: A Comprehensive Guide to Secure Cloud Computing”, Ronald L. Krutz, Russell Dean Vines, Wiley- India,2010

Sub Title: BIGDATA ANALYSIS LAB	
Sub Code: CS08PPE04	No. of Credits : 1.5=0: 0: 1.5(L-T-P)
Exam Duration : 3 hours	IA+ESE =30+20

<p>Lab OBJECTIVE:</p> <ol style="list-style-type: none"> 1. Learn Injecting data into Hadoop 2. Learn to build and maintain reliable, scalable, distributed systems with Hadoop 3. Able to apply Hadoop ecosystem components. 4. To teach the fundamental techniques and principles in achieving big data analytics with scalability and streaming capability. 5. To enable students to have skills that will help them to solve complex real-world problems in for decision support.

Unit No.	Content	Teaching Hours
I, II, III, IV and V	<ul style="list-style-type: none"> • Study of Hadoop ecosystem • Programming exercises onHadoop • Programming exercises in NoSQL • Implementing simple algorithms in Map- Reduce (3) - Matrix multiplication, Aggregates, joins, sorting, searching etc. • Implementing any one Frequent Itemset algorithm using Map-Reduce • Implementing any one Clustering algorithm using Map-Reduce • Implementing any one data streaming algorithm using Map-Reduce • Mini Project: One real life large data application to be implemented (Use standard Datasets available on the web) a) Twitter dataanalysis b) Fraud Detection c) Text Mining etc. 	18

<p>LAB OUTCOMES: The students would have learnt</p> <p>CO1: Preparing for data summarization, query, and analysis. CO2: Applying data modelling techniques to large data sets CO3: Creating applications for Big Data analytics CO4: Building a complete business data analytic solution</p>
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Text Books:

1. Intelligent Data Analysis, Michael Berthold, David J. Hand, Springer, 2007.
2. Hadoop: The Definitive Guide, Tom White, Third Edition, O'reilly Media, 2012.
3. Understanding Big Data: Analytics for Enterprise Class Hadoop and Streaming Data, Chris Eaton,



- Dirk DeRoos, Tom Deutsch, George Lapis, Paul Zikopoulos,, McGrawHill Publishing, 2012.
4. Mining of Massive Datasets, Anand Rajaraman and Jeffrey David Ullman, CUP, 2012.
 5. Taming the Big Data Tidal Wave: Finding Opportunities in Huge Data Streams with Advanced Analytics, Bill Franks, John Wiley & sons, 2012.
 6. Making Sense of Data, Glenn J. Myatt, John Wiley & Sons, 2007.
 7. Big Data Glossary, Pete Warden, O'Reilly, 2011.

Reference Books:

1. Data Mining Concepts and Techniques, Jiawei Han, Micheline Kamber, 2nd Edition, Elsevier, Reprinted 2008.
2. Intelligent Data Mining, Da Ruan, Guoqing Chen, Etienne E. Kerre, Geert Wets, Springer, 2007.
3. Harness the Power of Big Data The IBM Big Data Platform Paul Zikopoulos, Dirkde Roos, Krishnan Parasuraman, Thomas Deutsch, James, Giles, David Corrigan, Tata McGraw Hill Publications, 2012.
4. Big Data Science & Analytics: A HandsOn Approach, Arshdeep Bahga, Vijay Madiseti, VPT, 2016

Analytics in a Big Data World: The Essential Guide to Data Science and its Applications (WILEY Big Data Ser