FR. Conceicao Rodrigues College of Engineering

1.1.1 Supporting Documents

EXECUTIVE COMMITTEE CONSTITUTION CIRCULAR.

FR. CONCEICAO RODRIGUES COLLEGE OF ENGINEERING
Fr. Agnel Ashram, Bandstand, Bandra (West), Mumbai – 400 050.

Ref: CRCE / 2016 *Date:* June 16, 2016

CIRCULAR

***Sub.*: Re-constitution of 'Executive Committee'**

It has been decided to reconstitute the 'Executive Committee' with immediate effect. Following staff members are nominated in the newly constituted Executive committee:

1. Dr. Srija Unnikrishnan, Princial
2. Dr. D.V. Bhoir, HOD – Electronics Engg.
3. Dr. S.K. Surve, HOD – Computer Engg.
4. Prof. D.S.S. Sudhakar, HOD – Production Engg.
5. Ms. Jagruti Save, HOD – Info. Tech.
6. Ms. S. Prabavathy, HOD – Hum. & Sci.
7. Dr. V.S. Bilolikar, Dean – Students Affairs
8. Dr. Bhushan Patil, Dean – Research & Development
9. Mr. Mahesh Sharma, Training & Placement Officer
10. Ms. Sapna Prabhu, Dean – Academics
11. Mr. V.S. Jorapur, Examination Cell Incharge
12. Mr. M.L. Martis, Registrar

(DR. SRIJA UNNIKRISHNAN)
PRINCIPAL

FR. CONCEICAO RODRIGUES COLLEGE OF ENGINEERING

Fr. Agnel Ashram, Bandstand, Bandra (W), Mumbai – 400 050.

MINUTES OF THE EXECUTIVE COMMITTEE MEETING HELD ON 16TH NOVEMBER 2018 IN THE BOARD ROOM (GROUND FLOOR) AT 02.00 PM

MEMBERS PRESENT:

1. Dr. Srija Unnikrishnan (In the Chair)
2. Mr. D.S.S. Sudhakar
3. Dr. D.V. Bhoir
4. Dr. S.K. Surve
5. Ms. Sundary Prabavathy
6. Dr. V.S. Bilolikar
7. Dr. Bhushan Patil
8. Dr. Sapna Prabhu
9. Dr. V.S. Jorapur

Principal welcomed the members.

Principal read out the minutes of last meeting held on 6th October 2018. She told HODs to take up all pending works in the Dept. staff meeting and fix time-lines for the same in the Dept. academic calendar.

The following matters were discussed:

Item No.1: Review of the current Semester

- Members reviewed the current attendance rule. They remarked that students took the cover of remedial classes, for not maintaining regular attendance.
- In cases where re-tests for UT were given, the IA score should be the minimum passing mark.
- Principal enquired about the overall attendance and performance of first year students and members responded that it was better than last year. She said that students having capability but failing in Unit Tests, should be guided and given re-test to keep up their confidence level. This will reduce the number of admission cancellations, especially in Production and Electronics.
- Termwork and Internal Assessment marks entry will be online. Final entry of the same will be done after the approval from respective HOD.
- Principal mentioned that the range of TW and IA marks should be scaled up, on par with other colleges, with no compromise on the amount and quality of practical work done by students. Students should be made to put in efforts and rewarded.
- Members said that our SE, TE and BE students' performance in Orals, and Practical exams was satisfactory and better than that observed in other peer colleges.

...2/-

Item No.2 : Next Semester

- Uniform 75% attendance rule, with no provision for make-up through remedial classes, will be followed in the next semester. Constant follow up by class teachers and HODs should be done to identify defaulters in the beginning of the semester and keep them regular. Serious defaulter cases will be considered individually.
- It was decided to implement a more practical oriented teaching. Before the time-table is finalised, HODs will identify practical oriented subjects and allocate more lab hours for those subjects. Faculty can use good videos, case studies and explore innovative methods to give practical / industrial exposure to students in their subjects.
- Duration of theory lecture will be reduced to 45 min, taking note of the attention span of students. Subjects with 4 hours per week, will have 5 periods of 45 minutes each. As far as possible (lab allotment permitting), time-table will have 5 periods in the morning session and practicals in afternoon.
- Members discussed the placement scenario and the challenge in getting students placed in the coming years. This year, TCS did not visit any campus. They conducted national level aptitude tests, followed by interviews in their offices. Similar procedure might be adopted by Accenture next year. In general, the placement process is becoming very competitive. Hence, it is very necessary that our students get the correct orientation and training from second year itself.
  It was decided to arrange placement training of one week for sixth semester students and if possible, for fourth semester also. This should include the necessary skill set training.
- Students should be encouraged to give GATE examination. For the same, refresher classes for GATE relevant subjects can be planned in the Dept. Academic calendar.
- Dr. Surve suggested that each faculty can assign projects to students in his/her area of interest, involving second and third year students. 2 hrs time slot can be allotted for the same and based on their performance, some credit marks can be assigned and included in Term Work. The logistics of the scheme should be worked out at the dept. level.
  Dr. Surve explained that Computer department has formed groups of 5 students and a mini project is allotted to each group, under the mentorship of one faculty member. The same faculty member will be the academic mentor for those students and will track their performance.
- Dr. Bilolikar suggested increase in the no. of working hours, by extending the college timings up to 6.30 pm, in order to avoid the constraints of infrastructure availability. However, members did not find it viable as majority of the students are from Vasai-Virar areas and have difficulty in travelling by train during the evening peak hours.
- Next semester, all dept.s will target to publish departmental newsletter

...3/-

Item No.3 : AQIS applications from departments

Principal said that Electronics and IT dept.s have applied for STTP under AQIS. Computer and Production Engg. dept. HODs said that they are targeting to apply for MODROB.

Item No.4 : Faculty internships

Faculty internship, in rotation, will be mandatory. HODs should identify two faculty members from their respective departments, who will be going for internship, this summer. The duration of internship can be from minimum 2 weeks to maximum 2 months, depending on the company's requirements. If the company is located outside Mumbai, the minimal expenditure of stay and commuting can be considered for reimbursement, with prior approval from management.

Dr. Surve mentioned that Bennet University is ready to take faculty on internship. The expenditure involved is to be found out.

Item No.5 : Other matters

- Principal enquired with Prof. S. Prabavathy regarding the updation of H&S departmental website, to which she responded that the same has been done.
- It was decided to order soft boards, in each dept., for the display of posters of student projects and other achievements. Each dept. will order the same as per the measurements of the identified area, for prominent display of the above material.
- Students should be informed well in advance, of the requirement to submit a poster of the project.
- For the Governing Council report (April 2019), each dept. will submit a departmental report with the achievements, infrastructure additions, programmes organised, publications etc.
- For ICAC3 19, the core committee has been formed. Ground work for application to ACM, for publication of Conference Proceedings, is in process
- Dr. Sapna enquired about the responsibilities of the newly constituted Institutional Brochure committee. Principal replied that in addition to the preparation of Prospectus for 2019, the committee will follow up and ensure the updation of website and also prepare institute promotional material, as required.
- Principal told Dr. Bilolikar to remove the event "We are the world" from Euphoria. Though the screening committee edits the same, the unedited version gets uploaded on YouTube.
- Dr. Bhushan Patil suggested measures to improve the rating of our college website. Good videos showing infrastructure, college events, video lectures by faculty etc. can be uploaded.

..4/-

- Dr. Jorapur expressed the necessity of installing AC in Exam Cell, as parents visiting and waiting in the exam cell for Transcripts, Certificates, Marksheets etc., often complain. He also suggested that Exam Cell and Placement centre can be brought to the 1st floor, adjacent to College office.
- Members enquired about improvement of canteen facilities and Xerox centre, which students consider as their lifeline. Principal informed that the lobby area at the diploma entrance will be developed as additional canteen area. Xerox centre will soon be developed opposite the current canteen.

Principal thanked members for attending the meeting and their active participation.

(Dr. SRIJA UNNIKRISHNAN)
PRINCIPAL

Copy to:

1. Rev. Fr. Peter D'Souza, Local Superior – for information
2. Rev. Fr. Valerian D'Souza, Director – for information
3. Prof. D.S.S. Sudhakar
4. Dr. S.K. Surve
5. Dr. D.V. Bhoir
6. Dr. Jagruti Save
7. Ms. S. Prabavathy
8. Mr. Mahesh Sharma
9. Dr. V.S. Bilolikar
10. Dr. Bhushan Patil
11. Dr. Sapna Prabhu
12. Dr. V.S. Jorapur
13. Mr. C.B. Shetty
14. Prof. Garima Tripathi

DEPARTMENTAL ADVISORY BOARD CIRCULAR

Sub: Formation Department Advisory Board

Department Advisory Board (DAB) has been constituted in the computer department with the following members. It has representative members from major Employer of the program's graduates, experts from Academia and Alumni.

1. Dr. Srija Unnikrishnan (Principal, Fr.C.R.C.E.)
2. Dr. Sunil Surve (H.O.D. Computer Department, Fr.C.R.C.E)
3. Prof. Swati Ringe, (Program Coordinator, Computer Department, Fr.C.R.C.E)
4. Dr. Dhananjay Kalbande (H.O.D. Computer Department, S.P.I.T- Academics Expert)
5. Mr. Sagar Shedge (Delivery Manager/ Head, Tata Consultancy Services- Employer)
6. Mr. Mihir Karkare (Co-founder & Executive VP at Social Wavelength-Alumni)
7. Mr. Jaykrishnan Nair (Associate Software Engineer at Directi – Alumni)

The activities to be performed during the meetings in brief are as follows.

1) Recommend suggestions for formulation of Vision, Mission, Program Education Objectives (PEOs) and Program Specific Outcomes (PSOs).

2) Review the Program Outcome Attainment and suggest the actions the department can take for further improvements.

3) Suggest actions about the curriculum enhancements to bridge the gap between industry and academia.

4) Quality improvement about academic processes.

(DR. Sunil Surve)

H.O.D. Computer Dept.

MINUTES OF DEPARTMENTAL ADVISORY BOARD

Fr. Conceicao Rodrigues College of Engineering

Department of Electronics Engineering

The Third meeting of the Departmental Advisory Board (DAB) of the Electronics Department, Fr. CRCE is scheduled on May 13,2017 in the Conference Room, 5th floor at 1.30am preceded by lunch at 1 pm.Agenda for the same is as given below

Agenda

1. Discussion on uploaded SAR.

2. Program Outcomes (POs) attainment for the year 2015-16

3. Suggestions on Academic processes of the Department.

Dr Deepak V. Bhoir

Professor and Head,

Department of Electronics,

Fr. Conceicao Rodrigues College of Engineering

Members:

1) Dr. Srija Unnikrishnan
2) Dr. S. S. Rathod
3) Mr. Suresh B. Joshi
4) Mr. Parag Doshi
5) Mr. Jay Shah
6) Dr. D. V. Bhoir
7) Dr. Sapna Prabhu (Program Co-ordinator)

Minutes of the Meeting

Department of Electronics Engineering

FR. CONCEICAO RODRIGUES COLLEGE OF ENGINEERING

Fr. Agnel Ashram, Bandra, Mumbai 400 050

Meeting: Departmental Advisory Board (DAB)

Date and Time: May 13, 2017 at 1.30 pm

Location: Conference Room, 5th floor

In Attendance:

Dr. S. S. Rathod, Head, Department of Electronics Engineering, SPIT

Mr. Suresh B. Joshi, Director, SB Joshi & Co.

Mr. Parag Doshi , Director, Chenoa Information & Software Services Pvt Ltd

Mr. Jay Shah, Scientific Officer 'D', Refueling Technology Division, BARC

Dr. Deepak Bhoir, Head, Department of Electronics Engineering, Fr. CRCE

Dr. Sapna Prabhu, Programme Coordinator, Electronics Department, Fr. CRCE

Agenda

1. Reading out of the Minutes of the Previous meeting
2. Discussion on uploaded SAR and Program Outcomes (POs) attainment for the year 2015-16
3. Presentation of the draft of the Revised syllabus for Electronics Engineering(Choice-based)
4. Suggestions on Academic processes of the Department.

Dr. Deepak V. Bhoir welcomed all the members and requested Dr. Sapna Prabhu to proceed with the agenda for the meeting.

1. The Minutes of the previous meeting was read and approved.
2. The SAR form of the Electronics Department was presented and inputs from the members was sought.
    a. Dr. Rathod commented on the point of Curriculum gap in the SAR. He mentioned that guest lecturers/Industrial visits , etc could be arranged to improve the attainment of POs related to Project management, Engineer and society , etc which are not addressed in the curriculum .

b. Dr. Rathod also commented that the Observations and Actions in Criterion 7 of the SAR must be correlated well. Observations must be in more detail and Actions must be based on the observations.
c. Dr. Rathod also commented on the PO attainment of the year 2015-16. He pointed out that there should not be a marked difference in the attainment of PO by direct and indirect methods. Dr. Sapna Prabhu commented that this point will be addressed during PO attainment calculations of the next year.

3. The draft of the revised syllabus of Electronics Engineering branch in University of Mumbai was presented for the comments from the members.
    a. Mr. Parag Doshi commented on the need to prepare students for better soft skills including presentation as well as documentation. He mentioned that some subjects like Mini-project, BE project, etc must include assessment based on these skills. Also, some training needed to be imparted to students to improve these skills.
    b. Mr. Jay Shah emphasized on the need for Industrial Visits and other similar methods to improve the exposure of students to industrial environment and practical issues. This would help in bridging the gap between Institute and Industry.
    c. Dr. Rathod and Mr. Parag Doshi, both commented that there could have been continuity in the Elective subjects (Department-level optional subject) across the semesters in the Revised syllabus.

4. Dr. Sapna Prabhu put forth the concern that students refer to sub-standard learning material and asked members to suggest methods to improve this.

    a. Mr. Suresh Joshi suggested that teachers should make interesting assignments which should be different for groups of students. This would force students to refer relevant literature which could improve the learning process.
    b. Dr. Rathod suggested various innovative techniques which can be introduced by teachers to make classroom learning more enjoyable as well as interactive for students. He mentioned a Role-play model which would involve students to play roles of vendors, manufacturers, customers, etc in some subjects which could greatly pique the interest of the student and also contribute towards self-learning.

    Using innovative techniques in teaching as well as using technology aids like MOOC, etc could greatly reduce the dependence of students on poor learning material.

The meeting ended with Vote of thanks by the Dr. Deepak Bhoir.

DAB meeting held on 12/05/2014

1) Jay Shah
2) Parag Doshi
3) S.B. Joshi
4) Dr. S.S. Rathod
5) Dr D.V. Bhavi
6) Dr Sapna Prabhu

PROGRAM ASSESSMENT COMMITTEE FORMATION CIRCULAR

Fr. Conceicao Rodrigues College of Engineering

Fr. Agnel Ashram, BandStand, Bandra (W), Mumbai, Maharashtra 400050

Date:12 January 2015

Circular

Sub: Formation Programme Assessment Committee

Programme Assessment Committee (PAC) has been constituted in the Production department. This Committee will review the Course Assessment Plans, Lecture Plans of the Faculty members. The Committee will review the unit test papers for the factors such as their correlation with the course outcomes, syllabus courage and marking scheme availability. Constitution of PAC is as follows.

1. Dr.V.S.Jorapur
2. Dr.Bhushan T.Patil
3. Dr. Vasim A Shaikh

All the Production department faculty members are informed to submit their documents to the committee as and when asked for as per the review schedule.

Prof.D.S S Sudhakar

(HOD.Production Department)

MINUTES OF PROGRAM ASSESSMENT COMMITTEE

Minutes of the PAC meeting held on 29th July 2017

The meeting was held by Program assessment committee (PAC) with all the faculty members of Production Engineering Department on 29th July 2017

Agenda:

- *Review of Attainments of course outcomes for academic year 2016-17 Odd Semester*
- *Review of CO statements, mappings and targets, assessment tools for changes if any for 2017-18 odd semester*
- *Review of Quality and mapping of unit test papers*
- *Review of quality and mapping of assignments for year 2017-18 (Odd Semester)*

Following activities were carried out during the meeting

- The committee reviewed CO calculations and attainments of all subjects for *academic year 2016-17 Odd Semester*
- The committee reviewed CO statements, CO-PO and CO-PSO mappings and CO targets of all the courses and provided necessary suggestions for improvement if required. Various assessment tools were also reviewed for changes and improvements were suggested.
- The committee requested all the teachers to set unit test question papers keeping in view COs for the subjects and map each question to relevant CO. Quality of question papers and their mapping to COs was checked for previous semester.
- The committee reviewed assignments and experiments for all the subjects at the beginning of the semester and provided necessary suggestions for improvements.

Dr.Vasim Shaikh Member of PAC	Dr.V.S.Jorapur Member of PAC	Dr.B.T.Patil Member of PAC	D. S. S. Sudhakar HOD- (Production Engg)

INSTITUTE ACADEMIC CALENDAR

FR. CONCEICAO RODRIGUES COLLEGE OF ENGINEERING, BANDRA

ACADEMIC PLANNER : JANUARY-MAY 2019

Month							Holidays	Extra/Co-curricular Events	Curriculum Plan	Staff Notice
JANUARY										
Su	Mo	Tu	W	Th	Fr	Sa				
		1	2	3	4	5		Jan 5 : Alumni Meet	Jan 1 : College Reopens (FE,SE,TE,BE)	Jan 8 : Faculty meeting
6	7	8	9	10	11	12				
13	14	15	16	17	18	19		Jan 18-25 : Athlos		
20	21	22	23	24	25	26	Jan 26 : Republic Day	Jan 31 : Annual Sports day		QP and Model Answer upload for Unit test 1 : Link active between Jan 21-25
27	28	29	30	31						
FEBRUARY										
Su	Mo	Tu	W	Th	Fr	Sa			Feb 4,5,6 : Unit Test 1 (FE,SE,TE,BE)	Unit test 1 marks entry : Link active between Feb 6-12
					1	2		Feb 13-15 : Euphoria		
3	4	5	6	7	8	9				
10	11	12	13	14	15	16			Feb 18 -22 : Mid-term FB (FE,SE,TE,BE)	
17	18	19	20	21	22	23	Feb 19 : Shivaji Jayanti	Feb 23 : Convocation Ceremony		
24	25	26	27	28						
MARCH								March 2-3 : Inter-collegiate Hackathon		
Su	Mo	Tu	W	Th	Fr	Sa				
					1	2				
3	4	5	6	7	8	9	Mar 4 : Mahashivratri	March 15-16 : Crescendo		
10	11	12	13	14	15	16				
17	18	19	20	21	22	23	Mar 21 : Holi (Second Day)			
24	25	26	27	28	29	30				QP and Model Answer upload for Unit test 2 : Link active between March 25-29
31										
APRIL										
Su	Mo	Tu	W	Th	Fr	Sa			April 8,9,10 : Unit Test 2 (SE,TE,BE)	Unit test 2 marks entry : Link active between April 10-15
	1	2	3	4	5	6	Apr 6 : Gudhi Padwa		April 8-12 : FE Prelims	
7	8	9	10	11	12	13			April 8-16 : Final FB (FE,SE,TE,BE)	
14	15	16	17	18	19	20	Apr 17 : Mahaveer Jayanti		April 15 : Term work Submission	
21	22	23	24	25	26	27	Apr 19 : Good Friday		April 18 : Defaulter list	
28	29	30							April 20 : Term End	
MAY										
Su	Mo	Tu	W	Th	Fr	Sa				
			1	2	3	4	May 1 : Maharashtra Din			
5	6	7	8	9	10	11				
12	13	14	15	16	17	18	May 18 : Buddha Pournima			
19	20	21	22	23	24	25				
26	27	28	29	30	31					

Commencement of Odd Semester 2019 will be from 1st July 2019.

Attendance Entry will be on weekly basis. Link for online entry will be active from Saturday to Tuesday midnight.

PRINCIPAL

DR. (MRS.) SRIJA UNNIKRISHNAN

DEPARTMENT ACADEMIC CALENDAR

Department of Electronics Engineering

Academic Calendar- January- April 2019

01/01/2019	Beginning of the Semester
19/01/2019	Department meeting
28 /01/2019	Submission of Lesson /Practical Plan and respective COs
02/02/2019	PAC committee feedback to faculty members
01/02/2019	Work shop/FDP (Day1)(Topic: Innovative teaching Methods
02 /02/2019	Work shop/FDP (Day2)
05 /02/2019	Review of the Lesson /practical plan completion till date
25/02/2019	Project Demonstration-I and Evaluation for final year students
01/03/2019	Staff/Student Industrial Visit (GMRT, Narayangaon)
15 /03/2019	Crescendo-2018(Day1)
16/03/2019	Crescendo-2018(Day2) **PTA meeting for SE Class**
25//03/2019	Project Demonstration-II Approval of project report and preparation of technical paper
29/03/2019	Working Project Display/ Exhibition (UG/PG)
01/04/2019	Final year Project approval and Technical paper preparation
06/04/2019	Review of the Lesson /practical plan completion till date
14 /04/2019	Course Exit Survey/ Graduate Exit Survey
20 /04/2019	End of the Term.

Dr. Deepak V. Bhoir,

Head,

Department of Electronics Engineering

FR. Conceicao Rodrigues College Of Engineering
Father Agnel Ashram, Bandstand, Bandra-west, Mumbai-50
Department of Computer Engineering

B.E. (Computer) (semester VIII) (2018-2019)
Course Outcomes & Assessment Plan

Subject: Big Data Analytics (BDA-CPE8035) **Credits-5**

Syllabus:

1. **Introduction to Big Data:** Introduction to Big Data, Big Data characteristics, types of Big Data, Traditional vs. Big Data business approach, Case Study of Big Data, Solutions.

2. **Introduction to Hadoop:** What is Hadoop? Core Hadoop Components; Hadoop Ecosystem; Physical Architecture; Hadoop limitations.

3. **NoSQL:** What is NoSQL? NoSQL business drivers; NoSQL case studies; NoSQL data architecture patterns: Key-value stores, Graph stores, Column family (Bigtable) stores, Document stores, Variations of NoSQL architectural patterns; Using NoSQL to manage big data: What is a big data NoSQL solution? Understanding the types of big data problems; Analyzing big data with a shared-nothing architecture; Choosing distribution models: master-slave versus peer-to-peer; Four ways that NoSQL systems handle big data Problem

4. **MapReduce and the New Software Stack: Distributed File Systems:** Physical Organization of Compute Nodes, Large- Scale File-System Organization.
   MapReduce: The Map Tasks, Grouping by Key, The Reduce Tasks, Combiners, Details of MapReduce Execution, Coping With Node Failures.
   Algorithms Using MapReduce: Matrix-Vector Multiplication by MapReduce, Relational-Algebra Operations, Computing Selections by MapReduce, Computing Projections by MapReduce, Union, Intersection, and Difference by MapReduce, Computing Natural Join by MapReduce, Grouping and Aggregation by MapReduce, Matrix Multiplication, Matrix Multiplication with One MapReduce Step.

5. **Finding Similar Items:** Applications of Near-Neighbor Search, Jaccard Similarity of Sets, Similarity of Documents, Collaborative Filtering as a Similar-Sets Problem.
   Distance Measures: Definition of a Distance Measure, Euclidean Distances, Jaccard Distance, Cosine Distance, Edit Distance, Hamming Distance.

6. **Mining Data Streams: The Stream Data Model**: A Data-Stream-Management System, Examples of Stream Sources, Stream Queries, Issues in Stream Processing.
   Sampling Data in a Stream: Obtaining a Representative Sample, The General Sampling Problem, Varying the Sample Size.
   Filtering Streams: The Bloom Filter, Analysis.
   Counting Distinct Elements in a Stream: The Count-Distinct Problem, The Flajolet-Martin Algorithm, Combining Estimates, Space Requirements .
   Counting Ones in a Window: The Cost of Exact Counts, TheDatar-Gionis-Indyk-Motwani Algorithm, Query Answering in the DGIM Algorithm, Decaying Windows.

7. **Link Analysis**: PageRank Definition, tructure of the web, dead ends, Using Page rank in a search engine, Efficient computation of Page Rank: PageRank Iteration Using

MapReduce, Use of Combiners to Consolidate the Result Vector. Topic sensitive Page Rank, link Spam, Hubs and Authorities.

8. **Frequent Itemsets: Handling Larger Datasets in Main Memory** Algorithm of Park, Chen, and Yu, The Multistage Algorithm, The Multihash Algorithm. **The SON Algorithm and MapReduce Counting Frequent Items in a Stream** Sampling Methods for Streams, Frequent Itemsets in Decaying Windows

9. **Clustering:** CURE Algorithm, Stream-Computing , A Stream-Clustering Algorithm, Initializing & Merging Buckets, Answering queries

10. **Recommendation Systems:** A Model for Recommendation Systems, Content-Based Recommendations, Collaborative Filtering.

11. **Mining Social-Network Graphs:** Social Networks as Graphs, Clustering of Social-Network Graphs, Direct Discovery of Communities, SimRank, Counting triangles using Map-Reduce

Term Work:
Assign a case study for group of 2/3 students and each group to perform th followingexperiments on their case-study; Each group should perform the exercises on a larg dataset created by them.

The distribution of marks for term work shall be as follows:
Programming Exercises: ..... (10) Marks.
Mini project: ..... (10) Marks.
Attendance ..... (05) Marks
TOTAL: ..... (25) Marks.

Internal Assessment:
Internal Assessment consists of two tests. Test 1, an Institution level central test, is for 20 marks and is to be based on a minimum of 40% of the syllabus. Test 2 is also for 20 marks and is to be based on the remaining syllabus. Test 2 may be either a class test or assignment on live problems or course project.

Practical/Oral examination:
An oral exam will be held based on the above syllabus.

Course Objectives (optional):

1. To provide an overview of an exciting growing field of big data analytics.
2. To introduce the tools required to manage and analyze big data like Hadoop, NoSql Map-Reduce.
3. To teach the fundamental techniques and principles in achieving big data analytics with scalability and streaming capability.
4. To enable students to have skills that will help them to solve complex real-world problems in for decision support.

FR. Conceicao Rodrigues College Of Engineering

Father Agnel Ashram, Bandstand, Bandra-west, Mumbai-50

Department of Computer Engineering

B.E. (Computer) (semester VIII) (2018-2019)

Lesson Plan

Subject: Big Data Analytics (BDA-CPE8035) **Credits-5**

Time Table (2 week):

	Prof. Swati Ringe										With Effect from 09th January 2018
	8.45-9.30	9.30-10.15	10.15-11.00	11.00-11.15	11.15-12.00	12.00-12.45	12.45-13.15				
Mon				B R E A K			L U N C H				
Tues		BDA BEC									
Wed						BDA BEC					
Thurs		BDA BEC	BDA BEC								
Fri						BDA BEC					

Time Table (Regular):

Prof. Swati Ringe										With Effect from 14th January 2019
	8.45-9.45	9.45-10.45	10.45-11.00	11.00-12.00	12.00-01.00	13.00-13.30	13.30-14.30	14.30-15.30	15.30-16.30	16.30-17.30
Mon			B R E A K			L U N C H	OSL (SEC-D)		OSL (SEC-C)	
Tues		BDA BEC						OSL (SEC-D)		
Wed		BDA BEC					OSL (SEC-C)			
Thurs		BDA BEC		BDA (BEC-A)			OSL (SEC-A)			
Fri		BDA BEC					OSL (SEC-A)			

Total Load: 4T + 14P = 18 + MENTOR

Lecture Plan : SEM VIII-BDA-CPE8035

Modes of Content Delivery:

i	Class Room Teaching	v	Self Learning Online Resources	ix	Industry Visit
ii	Tutorial	vi	Slides	x	Group Discussion
iii	Remedial Coaching	vii	Simulations/Demonstrations	xi	Seminar
iv	Lab Experiment	viii	Expert Lecture	xii	Case Study

No.	Portion to be covered	Planned date	Actual date	Content Delivery - Reference /Assessment Method
1.	**Introduction to Big Data:** Introduction to Big Data, Big Data characteristics, types of Big Data.	01/01/2019	01/01/2019	PPT [1_BigData] – Video1, [TB1] /UT1
2	Traditional vs. Big Data business approach, Case Study of Big Data, Solutions.	02/01/2019	02/01/2019	PPT[1_BigData]- [TB1] / Group Discussion
3	**Introduction to Hadoop:** What is Hadoop? Core Hadoop Components;	03/01/2019 (2 lectures)	03/01/2019	PPT[2_Hadoop]- Video2,[TB1_4], Chart/ UT1
4	Hadoop Ecosystem; Physical Architecture; Hadoop limitations.	04/01/2019	04/01/2019	
5	**MapReduce and the New Software Stack: Distributed File Systems:** Physical Organization of Compute Nodes, Large-Scale File-System Organization.	08/01/2019	08/01/2019	PPT[2_Hadoop]- Video3,[TB1_4] /UT1
6	**MapReduce:** The Map Tasks, Grouping by Key, The Reduce Tasks,	09/01/2019	09/01/2019	PPT[2_Hadoop]- [TB1_4] /PostLab
7	Combiners, Details of MapReduce Execution, Coping With Node Failures.	10/01/2019	11/01/2019	
10	**Algorithms using MapReduce:** Matrix Vector Multiplication by MapReduce, Relational Algebra Operations. Computing Selections by MapReduce	11/01/2019 15/01/2019	10/01/2019 10/01/2019	ClassRoom Teaching - [TB1_4] / Lab Expt, UT1
11	Computing Projections by MapReduce, Union, Intersection and difference by MapReduce, Computing Natural join by MapReduce, Grouping and Aggregation by MapReduce	16/01/2019	16/01/2019	

12	Matrix Multiplication (One-step)	17/01/2019	15/01/2019	ClassRoom Teaching- [TB1]/ Lab Expt
13	**NoSQL**: What is NoSQL? NoSQL business drivers; NoSQL case studies.	18/01/2019	17/01/2019	PPT[3_NoSQL], Case Study- [TB4]/UT1
14	Variations of NoSQL architectural patterns: Key-value stores, Graph stores	22/01/2019	18/01/2019	PPT[3_NoSQL], Case Study [TB3_4]/ UT1
15	Column family (Bigtable) stores, Document stores,	23/01/2019	22/01/2019	
16	Using NoSQL to manage big data: What is a big data NoSQL solution? Understanding the types of big data problems; Analyzing big data with a shared-nothing architecture; Choosing distribution models: master-slave versus peer-to-peer; Four ways that NoSQL systems handle big data Problem	24/01/2019 25/01/2019	23/01/2019 24/01/2019	PPT[3_NoSQL]- [TB4]/ UT1
17	**Finding Similar Items** Applications of Near-Neighbor Search, Jaccard Distance, Jaccard Similarity of Sets, Similarity of Documents, Collaborative Filtering as a Similar-Sets Problem .	29/01/2019	25/02/2019	ClassRoom Teaching – [TB1_4]/ Quiz1
18	**Distance Measures:** Definition of a Distance Measure, Euclidean Distances, Cosine Distance,	30/01/2019	29/02/2019	
19	Edit Distance, Hamming Distance.	06/02/2019		
20	**Link Analysis** PageRank Definition, Structure of the web, dead ends, Using Page rank in a search engine	07/02/2019	30/02/2019 06/02/2019	PPT- [TB1_4]/
21	Efficient computation of Page Rank	20/02/2019	07/02/2019	ClassRoom Teaching- [TB1_4] /UT2/ Lab_Expt
22	PageRank Iteration Using MapReduce, Use of Combiners to Consolidate the Result Vector.	21/02/2019	20/02/2019	
23	Topic sensitive Page Rank, link Spam	22/02/2019	21/02/2019	
24	Hubs and Authorities.	26/02/2019	22/02/2019	
25	**Mining Data Streams** **The Stream Data Model**: A Data-Stream-Management System	27/02/2019	26/02/2019	PPT [TB1_4]
26	Stream Querie, Issues in Stream Processing.Examples of Stream Sources	28/02/2019	27/02/2019	

27	**Sampling Data in a Stream** : Obtaining a Representative Sample	01/03/2019	28/02/2019	
28	The General Sampling Problem, Varying the Sample Size.	05/03/2019	01/03/2019	
29	**Filtering Streams**: The Bloom Filter, Analysis.	06/03/2019	05/03/2019	Expert Lecture [TB1_4]/ Quiz, Guest Lect
30	**Counting Distinct Elements in a Stream**The Count-Distinct Problem, The Flajolet-Martin Algorithm, Combining Estimates, Space Requirements	07/03/2019	06/03/2019	Classroom Teaching, [TB1_4]/ UT2
31	**Counting Ones in a Window**: The Cost of Exact Counts, The Datar-Gionis-Indyk-Motwani Algorithm,Query Answering in the DGIM Algorithm, Decaying Windows.	08/03/2019	07/03/2019	Classroom Teaching, [TB1_4]/ UT2
32	**Frequent Itemsets**-Handling Larger Datasets in Main Memory	12/03/2019	08/03/2019	Classroom Teaching [TB1_4]/UT2
33	Algorithm of Park, Chen, and Yu	13/03/2019	12/02/2019	
34	The Multistage Algorithm, The Multihash Algorithm.	14/03/2019	13/02/2019	Seminar [TB1_4]
35	The SON Algorithm and MapReduce	19/03/2019	14/02/2019	
36	Counting Frequent Items in a Stream Sampling Methods for Streams, Frequent Itemsets in Decaying Windows	20/03/2019	19/03/2019	
37	**Clustering** - CURE Algorithm,	22/03/2019	20/03/2019	PPT- [TB1_4] /Lab Expt
38	Stream-Computing	26/03/2019	22/03/2019	
39	A Stream-Clustering Algorithm,	27/03/2019	26/03/2019	
40	Initializing & Merging Buckets, Answering Queries	28/03/2019	27/03/2019	
41	**Recommendation Systems** A Model for Recommendation Systems, Content-BasedRecommendations,	29/03/2019	03/04/2019	Case Study-Seminar [TB1_4]
42	Collaborative Filtering.	02/04/2019	04/04/2019	/UT2
43	**Mining Social-Network Graphs** Social Networks as Graphs, Clustering of Social-Network Graphs	03/04/2019	28/03/2019	PPT [TB4], HB /UT2, Lab Expt
44	Direct Discovery of Communities	04/04/2019	29/03/2019	PPT [TB4]
45	SimRank, Counting triangles using Map-Reduce	11/04/2019	02/04/2019	

Total Lectures : 46

Course Code	Course Name	Teaching Scheme			Credits Assigned			
		Theory	Practical	Tutorial	Theory	Practical/Oral	Tut	Credits
CPE 8035	Big Data Analytics	04	02	--	04	01	---	05

Course Code	Course Name	Examination Scheme							
		Theory Marks				Term Work	Practical	Oral	Total
		Internal Assessment			End Sem Exam				
		Test1	Test2	Avg					
CPE 8035	Big Data Analytics	20	20	20	80	25	---	25	150

Term Work:

Assign a case study for group of 2/3 students and each group to perform the following experiments on their case-study; Each group should perform the exercises on a large dataset created by them.

The distribution of marks for term work shall be as follows:
· Programming Exercises: ..... (10) Marks.
· Mini project: ..... (10) Marks.
· Attendance ..... (05) Marks
TOTAL: ..... (25) Marks.

Internal Assessment:

Internal Assessment consists of two tests. Test 1, an Institution level central test, is for 20 marks and is to be based on a minimum of 40% of the syllabus. Test 2 is also for 20 marks and is to be based on the remaining syllabus. Test 2 may be either a class test or assignment on live problems or course project.

Practical/Oral examination:

An oral exam will be held based on the above syllabus.

Text Books/ Reference Books:

Text Books:

[TB1]- Anand Rajaraman and Jeff Ullman "Mining of Massive Datasets", Cambridge University Press,

[TB2]-Alex Holmes "Hadoop in Practice", Manning Press, Dreamtech Press.

[TB3]-Dan McCreary and Ann Kelly "Making Sense of NoSQL" – A guide for managers and the rest of us, Manning Press.

[TB4]- VijayaLaxmi, Radha Shankarmani, "Big Data Analytics", Wiley.

Reference Books:

1. Bill Franks, "Taming The Big Data Tidal Wave: Finding Opportunities In Huge Data Streams With Advanced Analytics", Wiley

2. Chuck Lam, "Hadoop in Action", Dreamtech Press

Reference

[HB1]-Handbook with sample real life problems solution

Slides

Reference Web Resources:

1. Stanford University Lecture series on Mining Massive Data Sets.
2. BigDataUniversity web site.

Course Outcomes:

Upon completion of this course students will be able to:

CPE8035.1: Explain characteristics of and trends in big data.**[B2:Comprehension]**

CPE8035.2: Solve big data related problems using the tools like Hadoop and NoSQL.**[B3:Application]**

CPE8035.3: Apply appropriate algorithms for extracting knowledge from given BigDataSet. **[B3:Application]**

CPE8035.4: Simulate real life applications of big data analytics. **[B3:Application]**

Mapping of CO and PO/PSO

Relationship of course outcomes with program outcomes: Indicate 1 (low importance), 2 (Moderate Importance) or 3 (High Importance) in respective mapping cell.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CSC8035.1	3			1					2				3	
CSC8035.2	3	3	2		3				2				3	3
CSC8035.3	3	3	3		2				2	1		3	3	3
CSC8035.4	3	3	3		2				2	2	2		3	3
TOTAL	9	6	8	1	7				8	3	2	3	12	9
CO-PO MATRIX	**3**	**3**	**2.66**	**1**	**2.33**				**2**	**1.5**	**2**	**3**	**3**	**3**

CO Assessment Tools:

CSC8035.1: **Direct Methods(80%):** Test1(Q1) Quiz1 UniExamThUniExamOral
CO1dm = 0.3T1(Q1-5M) + 0.3Quiz1+ 0.2UTh + 0.2UO.
InDirectMethods(20%): Course exit survey ***CO1idm***
CSC8035.1 = 0.8*CO1dm + 0.2* CO1idm

CSC8035.2: **Direct Methods(80%):** Test 1(Q2) Labs1-5 Assign1 UniExamThUniExamOral
CO2dm = 0.3T1(Q2-15M) + 0.3Lab1-5 +0.1ASSIGN1 + 0.2UTh + 0.1UO.
InDirectMethods(20%): Course exit survey ***CO2idm***
CSC8035.2 = 0.8*CO2dm + 0.2* CO2idm

CSC8035.3: **Direct Methods(80%):** Test2 (Q1) Labs6-8 MiniProject UniExamThUniExamOral
CO3dm = 0.4UT2 (Q1-15M)+ 0.1MP +0.2Lab6-8+ 0.2UTh + 0.1UPO.
InDirectMethods(20%): Course exit survey ***CO3idm***
CSC8035.3 = 0.8*CO3dm + 0.2* CO3idm

CSC8035.4: **Direct Methods(80%):** Test2(Q2) MiniProject UniExamThUniExamOral
CO4dm = 0.2UT2 (Q 2-5M) + 0.4MiniProject + 0.2UTh + 0.2UO.
InDirectMethods(20%): Course exit survey ***CO4idm***
CSC8035.4 = 0.8*CO4dm + 0.2* CO4idm

Course Outcomes Target:

Upon completion of this course students will be able to:

CPE8035.1: Explain characteristics of and trends in big data.[**B2:Comprehension**]
Target level: 2.5

CPE8035.2: Solve big data related problems using the tools like Hadoop and NoSQL. **[B3:Application]** **Target level: 2.5**

CPE8035.3: Apply appropriate algorithms for extracting knowledge from given BigDataSet. **[B3:Application]** **Target level: 2.5**

CPE8035.4: Simulate real life applications of big data analytics. **[B3:Application]**
Target level: 2.5

Curriculum Gap:

The students need to know basics of Data Mining Algorithms.

Content Beyond Syllabus:

1. Blooms Filter (Guest Lecture)
2. Research Paper study individually.

In order to achieve the course objectives, there are some topics listed below are not given much importance.

Sr.No.	Content Beyond Syllabus	Action Plan	PO Mapping
1	Blooms Filter	Planned one lecture.	PO2, PSO2

Department of Computer Engineering
Academic Term: Jan-April 2019

Rubrics for Lab Experiments

Class : B.E. *Computer* **Subject Name :*BDA***
Semester : VIII **Subject Code :*CPE8035***

Practical No:	
Title:	
Date of Performance:	
Roll No:	
Name of the Student:	

Evaluation:

Indicator	Very Poor	Poor	Average	Good	Excellent
Timeline (2)	More than three sessions late (0)	More than two sessions late (0.5)	Two sessions late (1)	One session late (1.5)	Early or on time (2)
Completeness(3)	N/A	N/A	Not Completed (1)	Partially Completed (2)	Completed(3)
Legibility(3)	N/A	N/A	Poor(1)	Good(2)	Very Good(3)
PostLab(2)	N/A	N/A	N/A	Partially Correct(1)	All Correct(2)

Total Marks :
Signature of the Teacher :

Department of Computer Engineering
Academic Term : Jan-April 2019

Rubrics for Assignments

Class : B.E. *Computer* **Subject Name :*BDA***
Semester : VIII **Subject Code :*CPE8035***

Assignment No:	
Title:	
Date of Performance:	
Roll No:	
Name of the Student:	

Rubrics for Assignment Grading:

Indicator	Very Poor	Poor	Average	Good	Excellent
Timeline (2)	More than three sessions late (0)	More than two sessions late (0.5)	Two sessions late (1)	One session late (1.5)	Early or on time (2)
Organization (3)	N/A	Very poor readability and not structured (0.5)	Poor readability and somewhat structured (1)	Readable with one or two mistakes and structured (2)	Very well written and structured without any mistakes (3)
Level of content (3)	N/A	Major points are omitted or addressed minimally (0.5)	All major topics are covered, the information is accurate.(1)	Most major and some minor criteria are included. Information is Accurate (2)	All major and minor criteria are covered and are accurate. (3)
Depth of Knowledge(2)	N/A	One answer correct(0.5)	Two answers correct(1)	Three answers correct(1.5)	Four answers correct(2)

Total Marks :
Signature of the Teacher :

Department of Computer Engineering
Academic Term: Jan-April 2019

Rubrics for Mini Project

Class : B.*E. Computer* **Subject Name :*BDA***
Semester : VIII **Subject Code :*CPE8035***

Practical No:	
Title:	
Date of Performance:	
Roll No:	
Name of the Student:	

Rubric for Mini Project

Indicator	Very Poor	Poor	Average	Good	Excellent
Timeline: **Maintains project deadline (2)**	Project not done (0)	More than two session late (0.5)	Two sessions late (1)	One session late (1.5)	Early or on time (2)
Completeness: **Complete all parts of project (2)**	N/A	< 40% complete (0.5)	~ 60% complete (1)	~ 80% complete(1.5)	100% complete(2)
Application design: **(4)**	Design aspects are not used (0)	Poorly designed (1)	Project with limited functionalities (2)	Working project with good design (3)	Working project with good design and advanced techniques are used (4)
Presentation(2)	Not submitted report (0)	Poorly written and poorly kept report(0.5)	Report with major mistakes(1)	Report with less than 3-4 mistakes (1.5)	Well written accurate report(2)

Total marks: **Signature of Teacher:**

SAMPLE GUEST LECTURE PROOF

SOCIETY OF ST. FRANCIS XAVIER, PILAR'S
FR. CONCEICAO RODRIGUES COLLEGE OF ENGINEERING
(Approved by AICTE & Affiliated to University of Mumbai)
Fr. Agnel Ashram, Bandstand, Bandra (W), Mumbai - 400 050.
Phone : (022) 6711 4000, 67114101, 6711 4104 • Fax : 6711 4100
Website : www.frcrce.ac.in • Email : crce@fragnel.edu.in

Ref.: CRCE / 2019

Date: March 28, 2019.

To,
Mr. Prashant Kanade
Vivekanand Institute of Technology
MUMBAI

Dear Sir,

We are very much grateful to you for delivering an informative lecture as guest speaker on **"Case Studies in Human computer interface"** held on 28th March 2019 from 10 AM to 12 Noon for our Final Year B.E. Computer students.

Your talk gave deep insights on the above topic to the students. It gave exposure to the students on real world case studies in the field of HCI. All the students appreciated and were benefitted from your views on the topic.

We once again thank you for time and efforts in delivering the lecture.

Looking forward for similar association with you in future.

Best regards,

(DR. SRIJA UNNIKRISHNAN)
PRINCIPAL

28/3/2019

Roll No.	Name of the student	Signature
7410	Renile George	
7613	Alapattu Anish John Sabu	
7614	Almeida Stallone Stany	
7615	BagasrawalaBurhanuddinYusufi	
7616	BaigAsjadShamsuddin	
7617	Bassi Aadesh Pradeep	
7618	Chackalamuriyil Susan Thomas	
7619	Christine Grace Tharian	
7620	DsaGlenice Godfrey	
7621	Dsouza Glaston Maxim	
7622	Dsouza Jason James	
7624	Edwin Clement	
7625	Fernandes Blair Noel	
7626	FernandesFascel Feliciano	
7627	Fernandes Nicole Diana Joseph	
7628	Furtado Ryan Stanley	
7629	GharatAnishaMilind	
7630	Gilson Shaun Thom	
7631	Gonsalves Adrian Godfrey	
7632	Gonsalves Shawn Malcolm	
7634	Greene Simon	
7635	Gupta Nikhil Pramod	
7636	HandeVishweshVivek	
7638	Iyengar Shantanu Santhanam	
7639	Jacob Tanya	
7640	Jagdale Nikita Vithal	
7641	Joann Rachel Tharian	
7642	Kadam Shweta Rajan	
7643	KapureMrunal Vijay	
7644	Koli Natasha Moses	
7646	Kulkarni KaumudiChandrashekha	
7647	Lobo Lionel Felix	
7648	Lopes RawlYarel	
7649	Lopes Scarlet Pascol	

Name of the student	Signature
MateyVrushalSushil	
Mehta Mohit Suresh	
Mishra Ashutosh Vinod	
NadarBhanugobanRajathirumara	
Nair Hrigved Sanjeev	
Noronha Joshua Anthony	
Pal SurajBadriprasad	
PalghadmalAkashVishwas	
ParabHrishikeshKishor	
Parasseril Kevin Sunny	
Patil Nikhil Prashant	
Peter Ruth Aradhana Ravi	
Pulinthitta Marilyn Mathew	
Quadras Joel Felix	
RajderkarGopeshSanjib	
Rao SiddharthAnanth Prasad	
Rebello Leroy Louis	
Rodrigues Melburne Vincent Aza	
SaldanhaMelita Joseph	
Samson Anto Paul	
ShetShriya Vijay	
Shetty Akhil Ashok	
ShetyeRuchir Ashok	
Tiwari ManupendraDharmendra	
Tuscano Ashley Felix	
WalseAniket Sunil	
BorkarPradnyaKrishnanath	
Almeida Sanil Sanjay	
AthaniNiket Narendra	
Carvalho Blossom Francis	
Duarte Mark Anthony Peter	
Fernandes Ryan George	
Hammiliton David	
More MadhuraHaridas	
MurzelloSiyanaEbat	
Patel Rathil Dinesh	
PatilJiteshBalkrishna	
Rosario Alison Prakash	
Shaikh Sara Shammi	
SiddhapurSuji Raja	

no. of students present: 47

SAMPLE CO ATTAINMENT CALCULATION

Fr. Conceicao Rodrigues College of Engineering
Department of Computer Engineering

SUBJECT: HUMAN MACHINE INTERACTION (HMI) CPC802
BRANCH/SEMESTER: COMPUTER /VIII **Academic Year: 2017-18**
CPC802.1: Design user centric interfaces ***Target: 2.5***

Direct Methods	Weightage	Successful students		Total No. Stud	Per (%)	Level	Attainment
Test (T1+T2)	0.2	No. of students score >= 12/ 20 in T1Q1+T2Q1=	77	77	100.00	3	0.6
65% of students will minimum score 60% marks							
Lab	0.3	No. of students score >= 60/80 in Exp 1-8 =	68	77	88.31	2	0.6
75% of students will minimum score 75% marks							
Assignment (3)	0.2	No. of students score >=7 /10 in Ass3 =	70	77	90.91	3	0.6
75% students will minimum score 70% marks							
End semester Examination(TH)	0.2	No. of students score >= 48/80	59	77	76.62	2	0.4
60% of Students with minimum score 60% marks							
End semester Examination(ORAL)	0.1	No. of students score >=17.5 /25 =	58	77	75.32	2	0.2
60% of Students with minimum score 70% marks							
Indirect Method						**sum**	**2.4**
Course Exit Survey	1	No. of students agree or strongly agree =	64	63	1.02	3	3
75% students strongly agree and agree							

Levels	Test	Lab	Assignment	End sem exam(TH)	End sem exam(PR)	Survey
1 (Low)	65-75	75-80	75-80	60-70	60-70	75-80
2 (Medium)	76-85	81-90	81-90	71-80	71-80	81-85
3 (High)	86 nand above	90 above	90 above	81 above	81 above	86 above

Overall attainment =	**2.52**

Fr. Conceicao Rodrigues College of Engineering

Department of Computer Engineering

CO attainment Summary (Academic Year: 2017-18)

SUBJECT: HUMAN MACHINE INTERACTION (HMI) CPC802

BRANCH/SEMESTER: COMPUTER /VIII

		2017-18	2016-17	Target
CO No.	CO	Attainment		
CPC802.1	**I am able to design user centric interfaces**	2.52	2.36	2.5
CPC802.2	**I am able to apply HMI principles in my day-to-day activities**	2.76	2.2	2.5
CPC802.3	**I am able to criticize existing interface designs and improve them**	2.04	2.2	2.5
CPC802.4	**I am able to develop interactive products up to the prototype stage for social and technical task.**	2.76	2.52	2.5

PO ATTAINMENT

CO Number	Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12	PSO1	PSO 2	CO Attainment
CPC802.1	Design user centric interfaces	2	2	3		3								3		2.52
CPC802.2	Apply HMI principles in their day-to-day activities	2	2											2		2.76
CPC802.3	Criticize existing interface designs, and improve them	2	2	3		3								3		2.04
CPC802.4	Develop interactive products up to the prototype stage for social and technical task.	2	2	3		3	2							3	2	2.76
Total		8	8	9		9	2							11	2	
CO-PO MATRIX		2	2	3		3	2							2.75	2	
PO ATTAIN		**2.52**	**2.52**	**2.44**		**2.44**	**2.76**							**2.56**	**2.76**	

SAMPLE BE PROJECT ASSESSMENT

Fr. Conceicao Rodrigues College of Engineering

Department of Computer Engineering

2018-19

Project Activity Schedule

B.E Computer Engineering **Academic year – 2018-19**

Date/week	Activity	Class
First week of May/End of April till first week of July	Project Idea Submission Notice Student s and faculty	TE -6
BE-7 Activities		
July 3/4 week	Project topic approval Presentation	BE-7
August1/2 week	Assigning new topics to Rejected project topic based on project idea submitted by faculties	
August 3/4 week	Mid term Presentation1 with research Papers	BE-7
September 2-3 week	Mid term Presentation2	BE-7
October 1/2week	Report submission	BE-7
As per university schedule	Oral exam and TW report evaluation	BE-7
BE-8 Activities		
January ¾ week	Mid term Presentation1	BE-8
Feb ¾ week	Mid term Presentation2	BE-8
March 1/2week	Implementation /demo to guide	BE-8
March 3 week	Draft Report1 submission	BE-8
March4	Draft Report2 submission	BE-8
April 1 week	Final Report submission	BE-8
April 1 week	Poster submission	BE-8
As per university schedule	Oral exam and TW report evaluation Midterm Presentation1	

Project Co-ordinator

SAMPLE UNIT TEST QUESTION PAPER

Fr. CONCEICAO RODRIGUES COLLEGE OF ENGINEERING.

Unit Test-II

SEMESTER / BRANCH: **VIII/ COMPUTER**
SUBJECT: **Big Data Analytics** MAX. MARKS: 20
DATE: **09/04/2019** TIME: 11.30AM-12.30PM

CO3: Apply appropriate algorithms for extracting knowledge from given dataset. [B3:Application]
CO4: Simulate real life applications of big data analytics. [B3:Application]

Q. 1. Identify the algorithm and show the working **(any three)** ***[CO3] (15 Marks)***

a) The snapshot of 10 transactions is given below for Amazon online shopping that generates big data. **Threshold value = 4** and **Hash function= (i*j) mod 10**

T1 = {1, 2, 3} T2 = {2, 3, 4} T3 = {3, 4, 5}
T4 = {4, 5, 6} T5 = {1, 3, 5} T6 = {2, 4, 6}
T7 = {1, 3, 4} T8 = {2, 4, 5} T9 = {3, 4, 6} T10 = {1, 2, 4}

Find the frequent item sets purchased for such big data by using suitable algorithm. Analyse the memory requirements for it.

b) The sensor generates the continuous stream of data. Count the number of ones in the data stream in last k bits.(k=20) using appropriate algorithm.
10110101011011010101011110110101110101001011001 0
Then if the new bits **10111** arrive; Show change in the states of the buckets. Compare the Estimated answer with Actual answer and comment.

c) There are four web pages indicated as nodes n1 to n4. The random surfer may visit the pages using hyperlinks. This is represented using the adjacency matrix for a graph of four vertices {n1 to n4} be as follows:

$$A = \begin{matrix} 0 & 1 & 1 & 1 \\ 0 & 0 & 1 & 1 \\ 1 & 0 & 0 & 1 \\ 0 & 0 & 0 & 1 \end{matrix}$$

Calculate the authority and hub scores for this graph using the suitable algorithm with k=6 and Identify the best authority and hub nodes.

d) Compute the page rank of nodes (refer Fig Q1-d) with teleport factor 0.8. (Show two iterations). Does this network have dead ends and spider traps?

Q. 2. Answer **any one** question. ***[CO4](05 Marks)***

a) Define Collaborative filtering. Using an example of an e-commerce site like Flipkart or Amazon or movieDB describe how it can be used to provide recommendation to users.

b) The whaps-app network is shown in the graph (Refer fig Q2-b). Find all **two level** communities using a suitable algorithm using the edge betweenness factor.

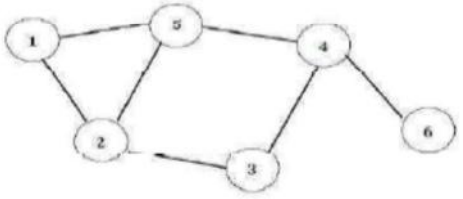


Fig: Q2-b)

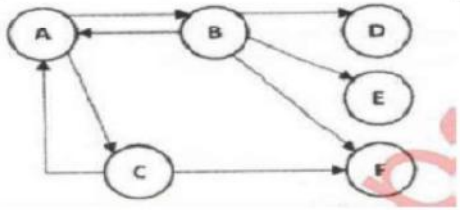


Fig: Q1-d)

INTERNAL ASSESSMENT REPORT CARD

Fr. Conceicao Rodrigues College of Engineering

Fr Agnel Ashram, Bandstand, Bandra (W), Mumbai - 400050
URL: www.fragnel.edu.in Ph: +912267114100 Mail: exam@fragnel.edu.in

STUDENT PERFORMANCE REPORT

Dear Parent,

Subject: ***Performance report of Mr. / Ms. Lopes Princely Jonas***

Please find the performance report of your ward Lopes Princely Jonas [Roll. No. 8613] after the 9 Weeks of classes and Internal assessment test - 1. We would like to inform you that minimum of 75 % overall attendance is required to become eligible for the Term End University Examination. Term End examination is expected to begin from third week of April, 2019. Internal assessment test(s) are separate passing heads and failure in the IA Test indicates failure in the Term End University examination. We request you to kindly help us in improving the student's performance by taking necessary steps possible from your end. This would strengthen our efforts in this regard.

We request you to get in touch with the FE Computer Engineering Class teacher Prof. Archana P. Karandikar to discuss & understand the performance of your ward.

Prof. Archana P. Karandikar may be reached on Phone: +91-022-67114107 and e-Mail: archana@fragnel.edu.in

Attendance Report

Subject Name	Type	CC	AC	%Atten
Applied Physics - II	TH	21	20	96%
Applied Chemistry - II	TH	26	23	89%
Communication Skills	TH	14	14	100%
Structured Programming Approach	PR	4	4	100%
Applied Physics - II	PR	2	2	100%
Structured Programming Approach	TU	4	4	100%
Communication Skills	TU	5	5	100%

Subject Name	Type	CC	AC	%Atten
Engineering Drawing	TH	20	17	85%
Applied Mathematics - II	TH	26	22	85%
Structured Programming Approach	TH	16	13	82%
Applied Chemistry - II	PR	10	10	100%
Engineering Drawing	PR	8	6	75%
Applied Mathematics - II	TU	3	3	100%
Engineering Drawing	TU	10	10	100%

TH: Theory PR: Practical TU: Tutorial CC: Conducted Classes / Sessions AC: Attended Classes / Sessions NA: Not Applicable

Overall % attendance: 91 %

Internal Assessment Test Marks Report

Subject Name	Type	Max Marks	Secured Marks	% Marks / Result
Applied Physics - II	TH	15	15	100% / Pass
Engineering Drawing	TH	-- NA --		
Applied Chemistry - II	TH	15	13	87% / Pass
Applied Mathematics - II	TH	20	16	80% / Pass
Communication Skills	TH	-- NA --		
Structured Programming Approach	TH	20	20	100% / Pass

TH: Theory NA: Not Applicable

Parent's Remarks & Signature	

Principal

Head of Department

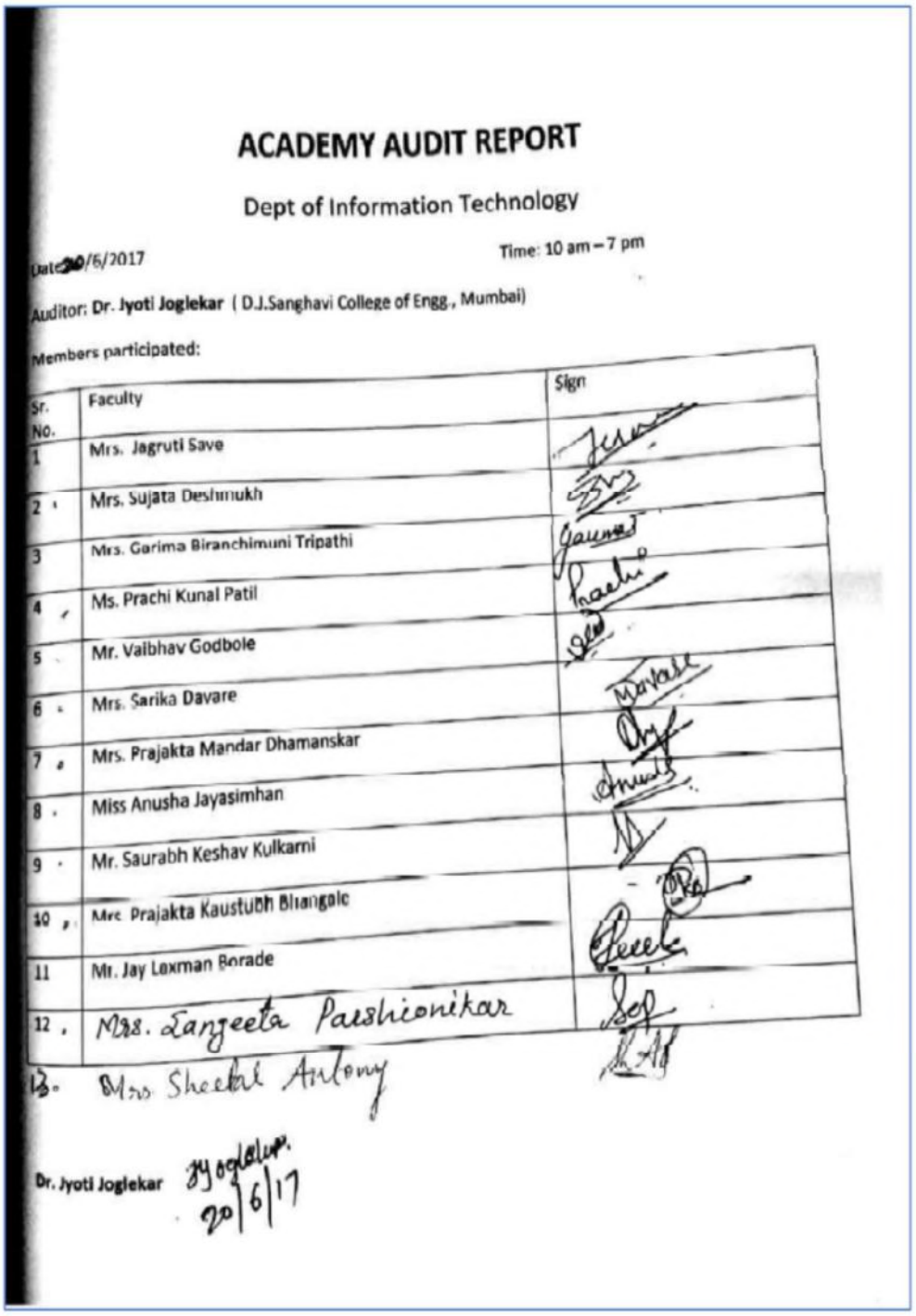
Class Teacher

DR. (MRS.) SWATI ARJUN GHARGE
PRINCIPAL

Do not Print this document unless it is very necessary. Save Environment, Save Trees. e-Governace Initiative - Fr. CRCE

Fr. CRCE - System Generated Student Performance Report [Unit: Office of the Principal] - 27.02.2019 - Page 30 of 55

SAMPLE ACADEMIC AUDIT REPORT



ACADEMY AUDIT REPORT

Dept of Information Technology

Date: 20/6/2017 Time: 10 am – 7 pm

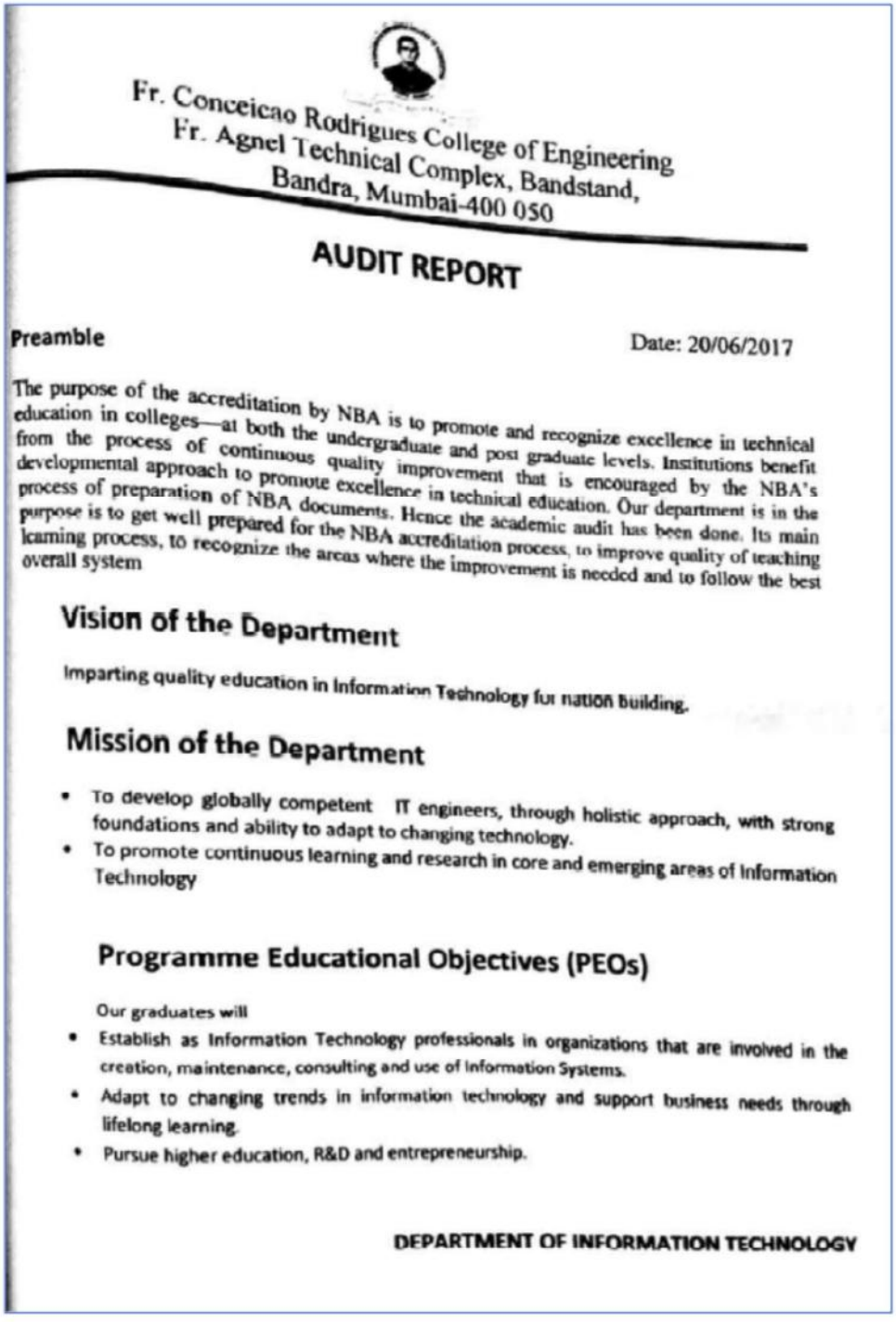
Auditor: Dr. Jyoti Joglekar (D.J.Sanghavi College of Engg., Mumbai)

Members participated:

Sr. No.	Faculty	Sign
1	Mrs. Jagruti Save	
2	Mrs. Sujata Deshmukh	
3	Mrs. Garima Biranchimuni Tripathi	
4	Ms. Prachi Kunal Patil	
5	Mr. Vaibhav Godbole	
6	Mrs. Sarika Davare	
7	Mrs. Prajakta Mandar Dhamanskar	
8	Miss Anusha Jayasimhan	
9	Mr. Saurabh Keshav Kulkarni	
10	Mrs. Prajakta Kaustubh Bhangale	
11	Mr. Jay Laxman Borade	
12	Mrs. Sangeeta Parshionikar	
13	Mrs. Sheetal Antony	

Dr. Jyoti Joglekar Jyoglekar. 20/6/17

SAMPLE ACADEMIC AUDIT REPORT



Fr. Conceicao Rodrigues College of Engineering
Fr. Agnel Technical Complex, Bandstand,
Bandra, Mumbai-400 050

AUDIT REPORT

Preamble

Date: 20/06/2017

The purpose of the accreditation by NBA is to promote and recognize excellence in technical education in colleges—at both the undergraduate and post graduate levels. Institutions benefit from the process of continuous quality improvement that is encouraged by the NBA's developmental approach to promote excellence in technical education. Our department is in the process of preparation of NBA documents. Hence the academic audit has been done. Its main purpose is to get well prepared for the NBA accreditation process, to improve quality of teaching learning process, to recognize the areas where the improvement is needed and to follow the best overall system

Vision of the Department

Imparting quality education in Information Technology for nation building.

Mission of the Department

- To develop globally competent IT engineers, through holistic approach, with strong foundations and ability to adapt to changing technology.
- To promote continuous learning and research in core and emerging areas of Information Technology

Programme Educational Objectives (PEOs)

Our graduates will

- Establish as Information Technology professionals in organizations that are involved in the creation, maintenance, consulting and use of Information Systems.
- Adapt to changing trends in information technology and support business needs through lifelong learning.
- Pursue higher education, R&D and entrepreneurship.

DEPARTMENT OF INFORMATION TECHNOLOGY

SAMPLE ACADEMIC AUDIT REPORT

Fr. Conceicao Rodrigues College of Engineering
Fr. Agnel Technical Complex, Bandstand,
Bandra, Mumbai-400 050

Minutes of Audit Meeting

Date: 20/06/2017

Audit Summary meeting started at 4.30 at venue room no:-803.

Auditor Dr.Jyoti Joglekar is Professor from D.J.Sanghvi college of Engineering, Mumbai. Prof. Dr. Jyoti guided about NBA process, documentation for SAR and how these things improve the quality of education processes.

The following points were discussed and suggested by auditor Dr.Prof. Jyoti Joglekar.

1. Make template for different files and also add date in the footer of every document.
2. Make Domain In-charges and ask them to review the respective course files and then give feedback to the Program Coordinator.
3. Make the files according to different criteria in the SAR and label them accordingly.
4. Make use of flowcharts and block diagrams to describe different teaching learning processes.
5. Replace reference with "remark" in the course diary.
6. Try to guide projects under your domain and take 1 interdisciplinary project.
7. Compare Unit test papers of previous years with current paper. Try to improve paper Quality
8. CO comparison for multiple years to be included in course diary

Prof. Jagruti Save

HOD IT

DEPARTMENT OF INFORMATION TECHNOLOGY

SAMPLE ACADEMIC AUDIT FORM

Fr. Conceicao Rodrigues College of Engineering

Department of Information Technology

Academic Audit – June 2018

Name of the Faculty: GARIMA TRIPATHI Semester: VIII

Courses Taught: STORAGE NETWORK MANAGEMENT & RETRIEVAL

Sr.No.	Parameters to be verified	Very Good (5) Good(4) Adequate (3) Needs Improvement (1)	Remark
1	Lesson Plan	4	
2	Text and Reference	4	
3	Content Quality and depth	4	
4	Delivery Mechanism Teaching Methods used PPT, chalks, any other	4	
5	Content Beyond Syllabus	3	Arrange Guest Lectures
6	Mechanism for Engaging Lab, New experiments added, Quality of Lab Manual	4	
7	Quality of Question Paper	4	
8	Rubrics Created 7.1 Lab 7.2 Test 7.3 Assignment 7.4 Quiz 7.5 Seminar/Presentation 7.6 Any other	4	Give one experiement. out of syllabus or advanced topic
9	Mapping CO with PO	4	
10	Knowledge of Tools used in Lab	4	
11	Students Performance evaluation methods, analysis of assessment results and corrective measures.	4	
12	Method adopted for underperforming students	3	
13	Help rendered to students w.r.t. career/skill development	3	
14	How do you facilitate working collaboratively with your colleague?	4	Interdisciplinary collaboration with Co-guide
15	Project Guided	4	

Audit done by: Dr. Jyoti Joglekar

Sign : Joglekar

27-06-2018

Date:

SAMPLE COURSE EXIT SURVEY

Subject: Fluid and Thermal Engineering
Name of F Deepika Singh S.
Semester: IV
Year: 2018-19
Total Nurr 72

Co#	Co Statement	Number of Students with Response				
		1	2	3	4	5
1	Illustrate the different properties of fluids along with the solution of related problems.	0	0	4	13	55
2	Solve problems on Bernoulli's equation with its application.	0	0	2	18	53
3	Determine energy losses due to friction and pipe fittings.	1	0	5	15	51
4	Apply thermodynamic and fluid mechanics principles to evaluate the performance of compressors.	0	1	3	15	53
5	Apply thermodynamic and fluid mechanics principles to evaluate the performance of gas turbines.	0	0	2	18	52
6	Apply heat transfer principles to solve problems related to composite wall and heat exchangers.	0	0	2	16	54