



# Praveen Yadav

Seilgraben 34-36,  
Aachen, 52062  
Germany

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Phone: +49-17677602224

LinkedIn: <https://www.linkedin.com/in/praveenyadav11/>

HackerRank: <https://www.hackerrank.com/inventthenext>

GitHub: <https://github.com/fnc11/>

## SUMMARY

Experienced Software Engineer with a demonstrated history of working in different cultural environments. Worked in Python, C++, and Java languages, currently doing Masters in RWTH Aachen, Germany.

## WORK EXPERIENCE

**Institut für Kraftfahrzeugeearch, Aachen** *May 2019 - April 2020*

### Web Developer (Hiwi Job)

- QNAP server setup for storing vehicle's sensor data files.
- Implemented open source project Bag-Database as a web interface.
- Added Spring-Boot and other features like LDAP login system, user action restrictions, and pre-defined tags to files.

**Samsung Research Institute, Noida(India)** *July 2016 - August 2018*

### Software Engineer - I

- Providing solutions for System UI, especially on the Android platform.
- Mainly working on QuickPanel and Notifications, providing solutions for behavioural and aesthetical changes, according to the UX guidelines.
- Collaborated with HQ on flagship models during Business Trips to South Korea.

## EDUCATION

**MSc(Media Informatics)**

*Oct 2018 – Present*

**RWTH Aachen**

Grade: 1.7

**B.Tech (Computer Science and Engineering)**

*July 2012 – May 2016*

**IIT (ISM), Dhanbad(India)**

CGPA: 7.6

## LANGUAGES

English (C1), German (A1), Hindi(Mother Tongue).

## COLLEGE PROJECTS

### FuzzyMinerWeb

*April 2020 – June 2020*

#### Process Discovery Algorithm

A python package to discover fuzzy processes can be used standalone or with a Web application (Django Framework).

**Responsibilities:** Managing the whole project, backend and frontend tasks to meet deadlines. Writing efficient algorithms to extract information out of log objects and implementing different filters.

### FoxSearch

*August 2014 – February 2015*

#### Transliterated Query Search Engine

A web application for transliterated queries developed on the Django platform.

**Responsibilities:** App designing, server-side programming in python, understanding, and implementation on MVT framework Django.

### PARTM

*July 2013 – December 2014*

#### Popular Acronym Retrieval through Text Messaging

Designed for low-cost mobile phones having the text-only messaging facility.

**Responsibilities:** System Design, incorporating different string matching related algorithms like EditDistance and Anagram techniques in java, use of Web-harvest API for web scraping.

## PUBLICATIONS

**Publisher:** ACM New York, NY, USA ©2015

**Conf:** FIRE (Forum for Information Retrieval Evaluation)

*December 2014*

**Project:** PARTM (Popular Acronym Retrieval through Text Messaging)

**Document URL:** <http://dx.doi.org/10.1145/2824864.2824889>

## ACCOMPLISHMENTS

- Got 320/340 marks in GRE(Graduate Record Examination) 2017.
- Received Kudos Award 2017 for a wonderful contribution to the SystemUI team at Samsung.
- Secured 11034 Rank in IIT-JEE 2012 and 7355 Rank in AIEEE 2012, among top 2.2% and 1.4% candidate appeared respectively.

## TECH SKILLS

**Worked with:** Python, JAVA, C++, Notebooks, Git (VCS), Linux (Ubuntu), Agile (Scrum), Django, Spring MVC, Tomcat (Server), Android, SVN (VCS), PostgreSQL, MySQL, HTML, CSS, Bootstrap, JavaScript.

**Libraries used:** NumPy, Pandas, SciPy, Matplotlib, PM4Py.

**Other skills:** MS Office suite (safe handling).

## INTERESTS

Process Mining, Data Science, Machine Learning, Computer Vision, Web Applications, Python Programming, Java Programming etc.

## Notenspiegel

Zentrales Prüfungsamt

Datum: 19.07.2020

Nachname:  
**Yadav**

Vorname:  
**Praveen**

Geburtsdatum:  
**2. August 1994**

Geburtsort:  
**Majra Khurd, Mahendragarh**

Matrikelnummer:  
**391288**

Studien-ID:  
**1480 88 579 (2005)**

Studiengang:  
**Media Informatics**

(angestrebter) Abschluss:  
**Master of Science RWTH Aachen University  
(M. Sc. RWTH)**

Module/Fächer	Note	Vm	Ang	CP	Datum	Sem
<b>Media Informatics</b>	<b>1,7</b>		<b>N</b>	<b>78,00</b>		
<b>Rechner- und Kommunikationstechnologie</b>	<b>1,7</b>		<b>N</b>	<b>16,00</b>	<b>18.02.2020</b>	
<b>Data Communication and Internet Technology</b>	<b>1,7</b>		<b>J</b>	<b>6,00</b>	<b>15.01.2019</b>	
<b>Datenkommunikation und Internet-Technologie (Aachen)</b>	<b>1,7</b>		<b>J</b>	<b>6,00</b>	<b>15.01.2019</b>	<b>18W</b>
Datenkommunikation und Internet-Technologie (Aachen)	1,7	BE	J	6,00	15.01.2019	18W
<b>Introduction to Bioinformatics</b>	<b>2,3</b>		<b>N</b>	<b>4,00</b>	<b>11.02.2020</b>	
Einführung in die Bioinformatik	2,3	BE	N	4,00	11.02.2020	19W
<b>Introduction to Data Science</b>	<b>1,3</b>		<b>N</b>	<b>6,00</b>	<b>18.02.2020</b>	
Einführung in Data Science	1,3	BE	N	6,00	18.02.2020	19W
<b>Multimedia-Technologie</b>	<b>1,5</b>		<b>N</b>	<b>22,00</b>	<b>29.02.2020</b>	
<b>Computer Graphics</b>	<b>1,0</b>		<b>N</b>	<b>8,00</b>	<b>05.02.2019</b>	
<b>Computergraphik</b>	<b>1,0</b>		<b>N</b>	<b>8,00</b>	<b>05.02.2019</b>	<b>18W</b>
Einführung in die Computergraphik	1,0	BE	N	8,00	05.02.2019	18W
<b>Bild-Bearbeitung, -Suche und -Analyse</b>	<b>1,3</b>		<b>N</b>	<b>8,00</b>	<b>31.01.2019</b>	
<b>Bild-Bearbeitung, -Suche und -Analyse (I) (Bonn)</b>	<b>1,3</b>		<b>N</b>	<b>8,00</b>	<b>31.01.2019</b>	<b>18W</b>
Bild-Bearbeitung, -Suche und -Analyse I	1,3	BE	N	8,00	31.01.2019	18W
<b>Machine Learning</b>	<b>2,7</b>		<b>N</b>	<b>6,00</b>	<b>29.02.2020</b>	
Machine Learning	2,7	BE	N	6,00	29.02.2020	19W
<b>Multimedia-Benutzung und -Wirkung</b>	<b>2,5</b>		<b>N</b>	<b>12,00</b>	<b>17.07.2019</b>	
<b>Business Process Intelligence</b>	<b>3,0</b>		<b>N</b>	<b>6,00</b>	<b>17.07.2019</b>	
Business Process Intelligence	3,0	BE	N	6,00	17.07.2019	19S
<b>Designing Interactive Systems I</b>	<b>2,0</b>		<b>N</b>	<b>6,00</b>	<b>08.02.2019</b>	
Designing Interactive Systems	2,0	BE	N	6,00	08.02.2019	18W
<b>Medien-Informatik Praktika</b>	<b>1,5</b>		<b>N</b>	<b>20,00</b>	<b>04.07.2020</b>	
<b>Praktikum Fraunhofer</b>	<b>1,7</b>		<b>N</b>	<b>10,00</b>	<b>30.05.2019</b>	
Praktikum Fraunhofer	1,7	BE	N	10,00	30.05.2019	19S

Module/Fächer	Note	Vm	Ang	CP	Datum	Sem
<b>Praktikum</b>	<b>1,3</b>		<b>N</b>	<b>10,00</b>	<b>04.07.2020</b>	
Process Discovery Using Python	1,3	BE	N	10,00	04.07.2020	19W
<b>Kommunikationsfertigkeiten</b>	<b>2,1</b>		<b>N</b>	<b>8,00</b>	<b>06.08.2019</b>	
<b>Deutschkurs oder Zusätzliches Modul</b>			<b>N</b>	<b>4,00</b>	<b>06.08.2019</b>	
<b>Deutschkurs</b>	<b>3,0</b>		<b>N</b>	<b>4,00</b>	<b>06.08.2019</b>	
<b>Prüfung Deutschkurs</b>	<b>3,0</b>		<b>N</b>	<b>4,00</b>	<b>06.08.2019</b>	<b>19S</b>
Prüfung Deutschkurs	3,0	BE	N	4,00	06.08.2019	19S
<b>Technical Writing</b>	<b>1,3</b>		<b>N</b>	<b>4,00</b>	<b>10.04.2019</b>	
<b>Technical Writing</b>	<b>1,3</b>		<b>N</b>	<b>4,00</b>	<b>10.04.2019</b>	<b>18W</b>
Technical Writing	1,3	BE	N	4,00	10.04.2019	18W

**Gesamtcredits: 78,00 / 120,00**

**Gesamtnote: 1,7**

**Die gesamte Prüfung ist nicht abgeschlossen, kann jedoch fortgeführt werden. Es liegt kein endgültiges Nichtbestehen des Studienganges vor.**

#### **Erläuterungen:**

Notenskala: 1,0 - 1,5 sehr gut / 1,6 - 2,5 gut / 2,6 - 3,5 befriedigend / 3,6 - 4,0 ausreichend / 5,0 nicht ausreichend / B = Bestanden / Q = keine Beurteilung

Vm = Vermerk / Ang = angerechnete Leistung/Leistungsübertrag aus voriger PO-Version/vorgezogene Masterprüfung (J/N/T = Ja/Nein/Teilweise) / CP = Credit Points / Sem = Semester: \_\_ W = Wintersemester/ \_\_ S = Sommersemester

Vermerke: AN = zur Zeit aktive Anmeldungen, BE = bestanden, NB = nicht bestanden, X = nicht erschienen, PA = Prüfung abgebrochen, Q = Attest, U = Ungültig/Täuschung, NZ = nicht zugelassen, A = Annullierung, PAQ = Prüfung abgebrochen (Attest), R = Rücktritt durch Genehmigung, S = Stornierung, M = mindestens ausreichend bestanden, G/GA/GL = Note gestrichen, E = Ersetzt, TR = Themenrückgabe, NA = nicht abgegeben

Dieses Dokument wurde maschinell erstellt und ist ohne Siegel und Unterschrift gültig.

## Certification Examinations

Central Examination  
Office

Date: 2020-07-19

Family Name:  
**Yadav**

First Name:  
**Praveen**

Date of Birth:  
**August 2, 1994**

Place of Birth:  
**Majra Khurd, Mahendragarh**

Student ID Number:  
**391288**

Study-ID:  
**1480 88 579 (2005)**

Course of Study:  
**Media Informatics**

(Intended) Degree:  
**Master of Science RWTH Aachen University  
(M. Sc. RWTH)**

Modules/Courses	Grade	An	Rec	CP	Date	Sem
<b>Media Informatics</b>	<b>1.7</b>		<b>N</b>	<b>78.00</b>		
<b>Computer and Communication Technology</b>	<b>1.7</b>		<b>N</b>	<b>16.00</b>	<b>2020-02-18</b>	
<b>Data Communication and Internet Technology</b>	<b>1.7</b>		<b>J</b>	<b>6.00</b>	<b>2019-01-15</b>	
<b>Data Communication and Internet Technology</b>	<b>1.7</b>		<b>J</b>	<b>6.00</b>	<b>2019-01-15</b>	<b>18W</b>
Data Communication and Internet Technology	1.7	BE	J	6.00	2019-01-15	18W
<b>Introduction to Bioinformatics</b>	<b>2.3</b>		<b>N</b>	<b>4.00</b>	<b>2020-02-11</b>	
Introduction to Bioinformatics	2.3	BE	N	4.00	2020-02-11	19W
<b>Introduction to Data Science</b>	<b>1.3</b>		<b>N</b>	<b>6.00</b>	<b>2020-02-18</b>	
Introduction to Data Science	1.3	BE	N	6.00	2020-02-18	19W
<b>Multimedia Technology</b>	<b>1.5</b>		<b>N</b>	<b>22.00</b>	<b>2020-02-29</b>	
<b>Computer Graphics</b>	<b>1.0</b>		<b>N</b>	<b>8.00</b>	<b>2019-02-05</b>	
<b>Computergraphics</b>	<b>1.0</b>		<b>N</b>	<b>8.00</b>	<b>2019-02-05</b>	<b>18W</b>
Introduction to Computer Graphics	1.0	BE	N	8.00	2019-02-05	18W
<b>Image Processing, Retrieval, and Analysis</b>	<b>1.3</b>		<b>N</b>	<b>8.00</b>	<b>2019-01-31</b>	
<b>Image Processing, Retrieval, and Analysis (I)</b>	<b>1.3</b>		<b>N</b>	<b>8.00</b>	<b>2019-01-31</b>	<b>18W</b>
Image Processing, Search and Analysis I	1.3	BE	N	8.00	2019-01-31	18W
<b>Machine Learning</b>	<b>2.7</b>		<b>N</b>	<b>6.00</b>	<b>2020-02-29</b>	
Machine Learning	2.7	BE	N	6.00	2020-02-29	19W
<b>Multimedia Use and Impact</b>	<b>2.5</b>		<b>N</b>	<b>12.00</b>	<b>2019-07-17</b>	
<b>Business Process Intelligence</b>	<b>3.0</b>		<b>N</b>	<b>6.00</b>	<b>2019-07-17</b>	
Business Process Intelligence	3.0	BE	N	6.00	2019-07-17	19S
<b>Designing Interactive Systems I</b>	<b>2.0</b>		<b>N</b>	<b>6.00</b>	<b>2019-02-08</b>	
Designing Interactive Systems	2.0	BE	N	6.00	2019-02-08	18W
<b>Lab Work</b>	<b>1.5</b>		<b>N</b>	<b>20.00</b>	<b>2020-07-04</b>	
<b>Practical Lab Fraunhofer</b>	<b>1.7</b>		<b>N</b>	<b>10.00</b>	<b>2019-05-30</b>	
Practical Lab Fraunhofer	1.7	BE	N	10.00	2019-05-30	19S

Modules/Courses	Grade	An	Rec	CP	Date	Sem
<b>Practical Lab</b>	<b>1.3</b>		<b>N</b>	<b>10.00</b>	<b>2020-07-04</b>	
Process Discovery Using Python	1.3	BE	N	10.00	2020-07-04	19W
<b>Communication Skills</b>	<b>2.1</b>		<b>N</b>	<b>8.00</b>	<b>2019-08-06</b>	
<b>German Language Course or Additional Module</b>			<b>N</b>	<b>4.00</b>	<b>2019-08-06</b>	
<b>German Language Course</b>	<b>3.0</b>		<b>N</b>	<b>4.00</b>	<b>2019-08-06</b>	
<b>Exam German Language Course</b>	<b>3.0</b>		<b>N</b>	<b>4.00</b>	<b>2019-08-06</b>	<b>19S</b>
Exam German Language Course	3.0	BE	N	4.00	2019-08-06	19S
<b>Technical Writing</b>	<b>1.3</b>		<b>N</b>	<b>4.00</b>	<b>2019-04-10</b>	
<b>Technical Writing</b>	<b>1.3</b>		<b>N</b>	<b>4.00</b>	<b>2019-04-10</b>	<b>18W</b>
Technical Writing	1.3	BE	N	4.00	2019-04-10	18W

**Overall Credits: 78.00 / 120.00**

**Overall Grade: 1.7**

**The final degree is not completed yet; studies and examinations can be continued. The student has not irrevocably failed to successfully complete the degree programme.**

#### **Explanations:**

Grades: 1,0 - 1,5 = very good / 1,6 - 2,5 = good / 2,6 - 3,5 = satisfactory / 3,6 - 4,0 = sufficient / 5,0 = failed / B = passed / Q = no assessment

An = Annotation / Rec = recognized examination/data transfer from older version of examination regulations/Master's assessments completed in the Bachelor's course of study (J/N/T = yes/no/partial) / CP = Credit Points / Sem = semester: \_\_ W = winter semester/ \_\_ S = summer semester

Annotations: AN = currently active exams, BE = passed, NB = failed, X = absent/failed, PA = exam aborted, U = invalid/cheating, Q = medical certificate, NZ = not licensed, A = examination annulled, PAQ = exam aborted (medical certificate), R = approved withdrawal, S = cancellation, M = passed with a grade of at least sufficient, G/GA/GL = deleted grade, E = replaced, TR = return of thesis topic, NA = not submitted

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Date: 30.04.2020

Ref: 20cli0498.docx

## Reference

Mr. Praveen Yadav, born on 02<sup>nd</sup> August 1994 in Majra Khuro, worked from 02<sup>nd</sup> May 2019 to 30<sup>th</sup> April 2020 as a research assistant with bachelor's degree at the Institute of Automotive Engineering (ika) in the Research Area Vehicle Intelligence & Automated Driving.

The Institute for Automotive Engineering, as part of the RWTH Aachen University, researches the vehicle including its systems and their interdependencies. From the idea of innovative concepts of components and systems to the realisation of vehicle prototypes, the over 330 employees actively develop the vehicle of the future and solve current significant issues in cooperation with automotive manufacturers and suppliers.

As part of his work, Mr. Yadav supported the staff of the institute in their tasks and projects.

To be especially highlighted are the following tasks:

- Administration of a database for ROS bag files in the Java Spring framework
- Coordination of database-related activities between its users and the IT department
- Implementation of a database login page based on LDAP
- Implementation of data access and privacy rules regarding downloads, images and videos
- Implementation of a custom tagging schema for specific bag file queries
- Contribution of the new functionalities to the original open source repository

Mr. Yadav always showed a high degree of initiative, and his commitment was convincing. He was able to grasp even the most difficult tasks correctly and to process them correctly.

He was also able to cope with the heaviest workload at any time. He always completed his tasks independently and with great care and accuracy.

In doing so, he always achieved good work results in terms of both quality and quantity.

He always carried out the tasks assigned to him to our complete satisfaction and his behaviour to superiors and colleagues was exemplary. Mr. Yadav was able to work well in a team.

Mr. Yadav will leave our institute on 30<sup>th</sup> April 2020.



Dipl.-Ing. Torben Dittmar  
Managing Chief Engineer



Michael Hoß M.Sc.  
Research Area Vehicle Intelligence & Automated Driving



**SAMSUNG**

**SAMSUNG INDIA ELECTRONICS PVT. LTD.**

C.I.N. : U31900DL1995PTC071387

Logix Cyber Park, Plot No. C 28-29, Tower D - Ground to 10th Floor

Tower C - 7th Floor, Sector-62, Noida - 201 301, India

Tel. : (91-120) 6711111 / 3894900

Website : [www.samsung.com/in](http://www.samsung.com/in)

SRI-N/HRD/ 18

**30-Aug-2018**

**Mr. Praveen Yadav**

**GEN: 16789066**

**SRI-Noida**

**Subject: Relieving and Experience letter**

**Dear Mr. Praveen Yadav**

This is with reference to your resignation from the services of **Samsung India Electronics Pvt. Ltd.** The Management of **SRI-Noida** (Samsung R&D Institute, India - Noida) division of Samsung India Electronics Pvt. Ltd. has accepted the same with regret.

We certify that you have worked with us from **11-Jul-2016 to 30-Aug-2018** and at the time of leaving you were designated as:

**Global Title: Engineer - I**

**Business Title: Engineer**

You will be paid your full and final settlement as per company's rules after clearance / adjustment of all dues.

We wish you success in all future endeavours.

**For SAMSUNG INDIA ELECTRONICS PVT. LTD.  
(SRI Noida & SDD Division)**



**Nishit Bansal  
DGM - Human Resources**



SAMSUNG

# KUDOS!

To Praveen Yadav  
Team Framework Group

For  
Wonderful contribution in  
System UI module

Zimtk  
HOD

WE ARE PROUD OF YOU

2  
0  
1  
7

JOB WELL DONE



SRI-NOIDA



भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ) धनबाद  
INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES) DHANBAD  
धनबाद-826004, झारखण्ड, भारत  
DHANBAD-826004, JHARKHAND, INDIA

No. Exam/219800/2017-18/1520

Dated: 18.01.2018

**OFFICIAL TRANSCRIPT**

**TO WHOM IT MAY CONCERN**

This is to certify that **Mr/Ms Praveen, Adm.No. 2012JE0658** was a student of this Institute. **She/He** passed **4-years B. Tech (Computer Science & Engineering)** Course in the year 2016 with an OGPA/CGPA 7.6. The medium of instruction at this Institute is English.

His/ Her duly verified Consolidated Transcript (I to VIII Semesters) and Provisional Certificate is attached.

It may be noted that as per Government of India Notification vide S.O.2870(E) of No. 2173, Part- II, Section 3-Sub section (ii) of the Gazette of India, dated 06/09/2016, the Indian School of Mines be called as Indian Institute of Technology (Indian School of Mines) Dhanbad with effect from 6<sup>th</sup> September, 2016.

(P Mathur)

Joint Registrar (Exam & Acad)  
([exam@iitism.ac.in](mailto:exam@iitism.ac.in))

CC: Mr/ Ms Praveen,  
Adm No 2012JE0658,  
4-years B. Tech (Computer Science & Engineering) for information.



# भारतीय खनि विद्यापीठ INDIAN SCHOOL OF MINES

धनबाद / DHANBAD - 826004

(Deemed-to-be University U/S 3 of the UGC Act, 1956  
Vide No. F.11-4/67-U3 dated 18.9.1967 of Govt. of India)

## अस्थायी प्रमाण-पत्र PROVISIONAL CERTIFICATE

क्रमांक/No. 2016 / 3031

दिनांक/Dated ..... 06-06-2016

प्रमाणित किया जाता है कि श्री/श्रीमती/कु० This is to certify that Mr./Mrs./Ms.

PRAVEEN

प्रवेश संख्या /Admission No. .... 2012JE0658 ..... ने इस संस्थान की अंतिम/ has passed the final

BACHELOR OF TECHNOLOGY - COMPUTER SCIENCE AND ENGINEERING

परीक्षा में उत्तीर्णता प्राप्त की जो/Examination of this Institute held in ..... APRIL 2016

में संचालित की गई। उन्होंने/He/She has obtained ..... 7.6 ..... ओ.जी.पी.ए. प्राप्त किया जो अधिकतम 10.00 था

एवं इन्होंने/OGPA out of a maximum of 10.00 and was placed in ..... FIRST CLASS

श्रेणी प्राप्त की/Class .

VERIFIED

जाँचकर्ता /Checked by

Joint Registrar (Exam & Academic)  
Indian Institute of Technology  
(Indian School of Mines), Dhanbad

उप कुलसचिव(परीक्षा) /Dy.Registrar(Examination)

Dy. Registrar (Exam & Academic)  
Indian School of Mines, Dhanbad  
PIN-826004

डिग्री प्राप्त करने के लिए सभी आवश्यकताओं को पूरा कर चुका है, यह प्रमाण पत्र अस्थायी रूप से जारी किया जाता है। इसकी मान्यता स्थायी डिग्री प्राप्त करने तक की है।  
He/She has fulfilled all the requirements for award of degree and this certificate is issued in lieu of degree certificate and valid till the issue of degree certificate.





भारतीय प्रौद्योगिकी संस्थान ( भारतीय खनि विद्यापीठ ), धनबाद  
Indian Institute of Technology (Indian School of Mines), Dhanbad  
धनबाद / DHANBAD - 826004, भारत / INDIA

CONSOLIDATED TRANSCRIPT

Name: PRAVEEN  
Admission No: 2012JE0658

1 SEMESTER EXAMINATION		2012-13	MONSOON	REGULAR
SUBJECT	CR. HRS.	CR. PTS.	GRADE	
PHYSICS	6	48	B+	
MATHEMATICS -I	7	42	C+	
ENGINEERING GRAPHICS	6	42	B	
ENGINEERING MECHANICS	7	49	B	
ELECTRICAL TECHNOLOGY	7	49	B	
EARTH SYSTEM SCIENCE	6	48	B+	
VALUE EDUCATION, HUMAN RIGHTS AND LEGISLATIVE PROCEDURE	6	48	B+	
PHYSICS (P)	1.5	12	B+	
ELECTRICAL TECHNOLOGY (P)	1.5	10.5	B	
Result: PASS		48	348.5	GPA: 7.26
3 SEMESTER EXAMINATION		2013-14	MONSOON	REGULAR
SUBJECT	CR. HRS.	CR. PTS.	GRADE	
PROGRAMMING LANGUAGE CONCEPT	7	49	B	
DATA STRUCTURES	7	35	C	
DISCRETE MATHEMATICS	7	42	C+	
DIGITAL ELECTRONICS	6	36	C+	
METHODS OF APPLIED MATHEMATICS - 1	7	49	B	
PROGRAMMING LANGUAGE CONCEPTS PRACTICAL	3	21	B	
DATA STRUCTURE PRACTICAL	3	27	A	
PROJECT	2	20	A+	
Result: PASS		42	279	GPA: 6.64
5 SEMESTER EXAMINATION		2014-15	MONSOON	REGULAR
SUBJECT	CR. HRS.	CR. PTS.	GRADE	
COMBINATORICS AND GRAPH THEORY	6	36	C+	
OPERATING SYSTEMS	7	56	B+	
THEORY OF COMPUTATION	7	42	C+	
SOFTWARE ENGINEERING	6	42	B	
DATABASE MANAGEMENT SYSTEMS	7	49	B	
OPERATING SYSTEMS LAB	3	30	A+	
SOFTWARE ENGINEERING LAB	2	16	B+	
DATABASE MANAGEMENT SYSTEMS LAB	3	30	A+	
PROJECT	4	40	A+	
Result: PASS		45	341	GPA: 7.58
7 SEMESTER EXAMINATION		2015-16	MONSOON	REGULAR
SUBJECT	CR. HRS.	CR. PTS.	GRADE	
VACATIONAL TRAINING	5	40	B+	
CRYPTOGRAPHY AND NETWORK SECURITY	7	42	C+	
PARALLEL & DISTRIBUTED COMPUTING	7	49	B	
CRYPTOGRAPHY & NETWORK SECURITY LAB	3	27	A	
PARALLEL & DISTRIBUTED COMPUTING LAB	3	27	A	
PROJECT	6	36	C+	
DATA MINING	6	36	C+	
EVOLUTIONARY COMPUTATION	6	48	B+	
Result: PASS		43	305	GPA: 7.09

RESULT: PASS

CUMM\_HRS: 368

DATE: 20 MAY 2016

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Course: BACHELOR OF TECHNOLOGY  
Branch: COMPUTER SCIENCE AND ENGINEERING

2 SEMESTER EXAMINATION		2012-13	WINTER	REGULAR
SUBJECT	CR. HRS.	CR. PTS.	GRADE	
MATHEMATICS II	7	63	A	
CHEMISTRY	6	48	B+	
MANUFACTURING PROCESS	6	48	B+	
ELECTRONICS ENGINEERING	6	54	A	
COMPUTER PROGRAMMING (S)	6	42	B	
DISASTER MANAGEMENT & ENERGY RESOURCES (S)	6	42	B	
ENGLISH FOR SCIENCE & TECHNOLOGY	6	42	B	
CO-CURRICULAR ACTIVITIES	3	21	B	
CHEMISTRY (P)	1.5	10.5	B	
ELECTRONICS ENGINEERING (P)	1.5	13.5	A	
COMPUTER PROGRAMMING (P)	2	20	A+	
Result: PASS		51	404	GPA: 7.92
4 SEMESTER EXAMINATION		2013-14	WINTER	REGULAR
SUBJECT	CR. HRS.	CR. PTS.	GRADE	
COMPUTER ORGANISATION & ARCHITECTURE	7	56	B+	
ALGORITHM DESIGN AND ANALYSIS	7	35	C	
MICROPROCESSOR AND APPLICATION	6	48	B+	
NUMERICAL AND STATISTICAL METHODS	7	56	B+	
ENGLISH FOR PROFESSIONAL COMMUNICATION	6	48	B+	
COMPUTER ORGANIZATION & ARCHITECTURE LAB	3	27	A	
ALGORITHM DESIGN AND ANALYSIS LAB	3	30	A+	
COMPOSITE VIVA VOCE	4	28	B	
CO-CURRICULAR ACTIVITY	3	24	B+	
PROJECT	2	20	A+	
Result: PASS		48	372	GPA: 7.75
6 SEMESTER EXAMINATION		2014-15	WINTER	REGULAR
SUBJECT	CR. HRS.	CR. PTS.	GRADE	
ARTIFICIAL INTELLIGENCE	6	36	C+	
COMPUTER NETWORKS	7	56	B+	
COMPUTER GRAPHICS	6	36	C+	
LANGUAGE PROCESSOR	7	56	B+	
MANAGERIAL ECONOMICS	6	48	B+	
COMPUTER NETWORKS LAB	3	27	A	
COMPUTER GRAPHICS LAB	3	30	A+	
LANGUAGE PROCESSOR LAB	3	24	B+	
COMPOSITE VIVA VOCE	4	36	A	
PROJECT	4	40	A+	
Result: PASS		49	389	GPA: 7.94
8 SEMESTER EXAMINATION		2015-16	WINTER	REGULAR
SUBJECT	CR. HRS.	CR. PTS.	GRADE	
VLSI DESIGN	7	56	B+	
INFORMATION RETRIEVAL	7	63	A	
VLSI DESIGN LAB	3	30	A+	
INFORMATION RETRIEVAL LAB	3	27	A	
COMPOSITE VIVA VOCE	4	32	B+	
PROJECT	6	54	A	
SOFT COMPUTING	6	42	B	
DISTRIBUTED OPERATING SYSTEMS	6	54	A	
Result: PASS		42	358	GPA: 8.52

CUMM\_POINTS: 2796.5

OGPA: 7.60

CHECKED

JT. REGISTRAR (EXAM & ACAD)  
Joint Registrar (Exam & Academic)  
Indian Institute of Technology  
(Indian School of Mines), Dhanbad

## EXPLANATION AND CALCULATION

### Award of Grades

IIT (ISM) follows relative grading system for the students admitted from 2013-14 session. The relative grading is determined as follows:

The score of the topper in class (T) would be subtracted by 35 (i.e. minimum mark to pass) to find the range of marks (R). The range R would be divided by the number of grade admissible for the range to find the range of each grade (Q). If Q is a fractional number, the next higher integer will be considered, else the integral part is considered. If T be the top score, the range for the highest grade is limited by T to (T-Q+1) (inclusively). The range for the immediately lower grade is determined similarly by progressively subtracting Q from the next lower number, i.e. (T-Q) to (T-2Q+1).

For other students, grades are based on range of marks (absolute grade). The performance level, grade points and the grade symbols used are given below:

Grade	Performance Level	Grade Point	Range of marks (For absolute grading)
A+	Outstanding	10	91-100
A	Excellent	9	81-90
B+	Very Good	8	71-80
B	Good	7	61-70
C+	Above Average	6	51-60
C	Average	5	41-50
D	Pass	4	35-40
F	Fail	0	Below 35

### Credit Hours

Credit for each subject is calculated giving double weightage to lecture hours, and single weightage to the sessional and practical. (For example if a subject has a L.T.P. 3-1-0, its credit hours will be  $3 \times 2 + 1 \times 1 + 0 = 7$ , or if the subject has L.T.P. of 0-0-2, its credit hours will be  $0 \times 1 + 0 \times 1 + 2 \times 1 = 2$ ).

### Weightage

Grade in each subject is awarded based on performance in sessional as well as the end-semester examination. For calculation of combined grade in a particular subject, 40% weightage is given to sessional and 60% weightage is given to the end-semester. For purely sessional subject, 100% weightage is given to the sessional. For practical subjects, 100% weightage is given to the practical.

### GPA

The following formula shall be used for calculating the Grade Point Average (GPA) for a semester :

$$GPA = \frac{TCP}{TCH} = \frac{G_1 C_1 + G_2 C_2 + G_3 C_3 + \dots}{C_1 + C_2 + C_3 + \dots}$$

Where  $G_1, G_2$  etc stand for the grade point in a specified Subject and  $C_1, C_2$  etc. stand for credit hours of the respective subjects.

TCP stands for Total Credit obtained by the student.  
TCH stands for Total Credit for the Semester.

GPA stand for Grade Point Average and will be calculated up to 2<sup>nd</sup> place of decimal.

### CGPA/OGPA

The CGPA/OGPA (Cumulative/Overall Grade Point Average) for the whole programme is calculated on the basis of the Credit

obtained and Credit allotted to each semester as indicated below:

$$CGPA/OGPA = \frac{TCP_1 + TCP_2 + TCP_3 + \dots}{TCH_1 + TCH_2 + TCH_3 + \dots}$$

Where  $TCP_1, TCP_2$ , etc. stand for Total Credit for the specified Semester and  $TCH_1, TCH_2$ , etc. stand for Total Credit for the respective semester. Along with GPA of a semester, Cumulative/Overall Grade Point Average (CGPA/OGPA) is also shown in the Grade Card issued to students for Final Semester.

### Requirement for Passing etc.

In order to clear a subject, a student must obtain pass marks in the End Semester Examination. For Practical and Purely Sessional Subjects, pass marks shall be 35 out of 100. For passing a semester, a student must pass in all the subjects and secure a GPA of at least 5.00. For passing a course an OGPA of at least 5.00 is required.

The OGPA 5 < 7 OGPA, will be equivalent to pass in Second class. The OGPA 7 < 9 OGPA will be equivalent to pass in First Class. The OGPA 9 ≥ will be equivalent to pass in First Class with Distinction.

### Equivalence of GPA / OGPA to percentage

For relative grading, the equivalent percentage of marks will be calculated as:  $(CGPA/OGPA - 0.5) \times 10$  and the minimum required equivalent percentage for the first class is 65% which is equivalent to OGPA of 7.

For absolute grading system based on range of marks, the GPA/OGPA × 10 will be equal to percentage of marks scored.

### Medium of Instruction

The medium of instruction at the institute is ENGLISH.

### Honours

Honours is an additional credential, a student may earn in the successful accumulation of credits at the end of the programme this will be mentioned in the Degree Certificate.

### Minor

Minor is an additional credential a student may earn worth of additional learning in a discipline other than his/her discipline of B.Tech degree. The requirements for a particular minor are met within the prescribed minimum time limit for the course. The grade card for minor subject is issued separately.

### Other Abbreviations used

H	Honour Subject
F	Failed in Subject
FT	Failed in Theory
FS	Failed in Sessional
FP	Failed in Practical
AB	Absent in Examination
SP	Special Examination
R	Repeat Examination
NC	Semester Examination Not Cleared
ES	Early Special Examination
UM	Unfair means
INC	Incomplete