Name: SUDEEP MONDAL

Admission No: 17MS000436

Course: MASTER OF SCIENCE

Branch: MATHEMATICS AND COMPUTING

1 SEMESTER EXAMINATION	2017-18	MONSOON	REGULAR
SUBJECT	CR. HRS.	CR. PTS.	GRADE
PROBABILITY & STATISTICS	7	56	B+
ORDINARY AND PARTIAL DIFFERENTIAL EQUATIONS	9	63	B
DISCRETE MATHEMATICS	7	56	B+
DIGITAL ELECTRONICS AND COMPUTER ORGANIZATION	7	42	C+
COMPUTER PROGRAMMING	6	30	C
STATISTICS LAB	3	21	B
DIGITAL ELECTRONICS AND COMPUTER ORGANIZATION LAB	3	27	A
COMPUTER PROGRAMMING LAB	3	24	B+
Result: PASS	45	319	GPA: 7.09

2 SEMESTER EXAMINATION	2017-18	WINTER	REGULAR
SUBJECT	CR. HRS.	CR PTS.	GRADE
COMPLEX ANALYSIS AND MEASURE THEORY	7	56	B+
STATISTICAL INFERENCE	7	49	B
DATA BASE MANAGEMENT SYSTEMS	6	42	B
DATA STRUCTURES	6	36	C+
OPERATING SYSTEMS	7	56	B+
STATISTICAL INFERENCE LAB	3	24	B+
DATA BASE MANAGEMENT SYSTEMS LAB	3	27	A
DATA STRUCTURES LAB	3	21	B
OPERATING SYSTEMS LAB	3	24	B+
COMPOSITE VIVA VOCE	4	24	C+
Result: PASS	49	359	GPA: 7.33

3 SEMESTER EXAMINATION	2018-19	MONSOON	REGULAR
SUBJECT	CR. HRS.	CR. PTS.	GRADE
FUNCTIONAL ANALYSIS	7	70	A+
SOFTWARE ENGINEERING	7	42	C+
ADVANCED ALGEBRA	7	49	B
SOFTWARE ENGINEERING LAB	3	27	A
PROJECT AND SEMINAR	6	48	B+
COMPUTER NETWORKS	7	35	C
MATHEMATICAL ECOLOGY	7	63	A
Result: PASS	44	334	GPA: 7.59

4 SEMESTER EXAMINATION	2018-19	WINTER	REGULAR
SUBJECT	CR. HRS.	CR PTS.	GRADE
DESIGN AND ANALYSIS OF ALGORITHM	6	54	A
ADVANCE NUMERICAL METHODS	6	54	A
TOPOLOGY	7	42	C+
OPTIMIZATION TECHNIQUES	7	63	A
INTEGRAL TRANSFORM AND INTEGRAL EQUATIONS	7	42	C+
DESIGN AND ANALYSIS OF ALGORITHM LAB	3	21	B
ADVANCE NUMERICAL METHODS LAB	3	30	A+
SEMINAR ON PROJECT	6	48	B+
PROJECT/DISSERTATION	6	60	A+
CO-CURRICULAR ACTIVITY	3	18	C+
Result: PASS	54	432	GPA: 8.00

RESULT: PASS   **CUMM_HRS: 192**   **CUMM_POINTS: 1444**   **OGPA: 7.52**

DATE:15 MAY 2019

VERIFIED

CHECKED

JT.REGISTRAR(EXAM & ACAD)

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 3×2+1×1+0=7, or if the subject has L.T.P. of 0-0-2, its credit hours will be 0×1+0×1+2×1=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 :

$$GPA = \frac{TCP}{TCH} = \frac{G_1C_1 + G_2C_2 + G_3C_3 + \ldots\ldots\ldots}{C_1 + C_2 + C_3 + \ldots\ldots\ldots}$$

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 2nd 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:

$$CGPA/OGPA = \frac{TCP1 + TCP2 + TCP3 + \ldots\ldots\ldots}{TCH1 + TCH2 + TCH3 + \ldots\ldots\ldots}$$

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) × 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 respective discipline. Honours is not indicative of class. On 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	Unfairmeans
INC	Incomplete

Serial No. MSC/2019/094

Admission No. 17MS000436

भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद

अभिषद् की अनुशंसा पर

सुदीप मन्डल

को

गणित एवं अभिकलन में

मास्टर ऑफ साइंस

की उपाधि

दिनांक **15 मई 2019** को आवश्यक अहर्ताओं को सफलतापूर्वक पूर्ण करने एवं अधिकतम 10.00 सी.जी.पी.ए. में से 7.52 सी.जी.पी.ए. अर्जित करने के उपरांत प्रदान करता है ।

भारतीय गणराज्य के अंतर्गत धनबाद में आज, दिनांक **4 सितम्बर 2019** को संस्थान की यह मुद्रांकित उपाधि दी गई ।

Indian Institute of Technology (Indian School of Mines), Dhanbad

On the recommendation of the Senate, hereby confers the Degree of
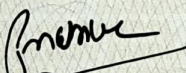
Master of Science

in

Mathematics and Computing

on

Sudeep Mondal

who has successfully completed the requirements for the award of this degree on 15 May 2019 , obtaining 7.52 C.G.P.A. out of maximum 10.00 C.G.P.A.

Given this day, the 4th day of September, 2019 under the seal of the Institute at Dhanbad in the Republic of India.

कुलसचिव
Registrar

निदेशक एवं अध्यक्ष, अभिषद्
Director & Chairman, Senate

अध्यक्ष, शासक मंडल
Chairman, Board of Governors