

Four Year Degree Course in the Faculty of Engineering & Technology
Course and Examination Scheme with Credit Grade System
III Semester B.E. (Mining Engineering)

Course Code	Subject	Teaching Scheme				Examination Scheme									
		Hours per week			No. of Credits	Theory						Laboratory			
Theory Courses		L	T	P		Duration of Paper (Hrs.)	Max. Marks ESE	Max. Marks		Total	Min. Passing Marks	Max. Marks TW	Max. Marks POE	Total	Min. Passing Marks
								Sessional							
					MSE			IE							
MN301	Mining Geology - I	3	1	0	3	3	80	10	10	100	40	--	--	--	--
MN302	Introduction to Mining Technology	3	1	0	4	3	80	10	10	100	40	--	--	--	--
MN303	Fluid Mechanics	3	1	0	3	3	80	10	10	100	40	--	--	--	--
MN304	Mine Electrical Engineering	3	1	0	3	3	80	10	10	100	40	--	--	--	--
MN305	Mechanical Engineering	3	1	0	3	3	80	10	10	100	40	--	--	--	--
Laboratories															
MN306	Mining Geology - I	0	0	3	2	--	--	--	--	--	--	25	25	50	25
MN307	Fluid Mechanics	0	0	3	2	--	--	--	--	--	--	25	25	50	25
	Mine Visits	0	0	2	0	Audit Course									
Total		15	5	8	--	--	--			500	--	--	--	100	--
Semester Total		28			20	600									

Note : Student has to undergo Practical Training at mines for four weeks (one month) duration during winter vacation.

Four Year Degree Course in the Faculty of Engineering & Technology
Course and Examination Scheme with Credit Grade System
IV Semester B.E. (Mining Engineering)

Course Code	Subject	Teaching Scheme				Examination Scheme									
		Hours per week			No. of Credits	Theory						Laboratory			
Theory Courses		L	T	P		Duration of Paper (Hrs.)	Max. Marks ESE	Max. Marks Sessional		Total	Min. Passing Marks	Max. Marks TW	Max. Marks POE	Total	Min. Passing Marks
								MSE	IE						
MN401	Mining Geology-II	3	1	0	3	3	80	10	10	100	40	--	--	--	--
MN402	Mine Surveying-I	3	1	0	3	3	80	10	10	100	40	--	--	--	--
MN403	Mining Machinery-I	3	1	0	3	3	80	10	10	100	40	--	--	--	--
MN404	Programming in C Language	3	1	0	3	3	80	10	10	100	40	--	--	--	--
MN405	Strength of Material	3	1	0	3	3	80	10	10	100	40	--	--	--	--
MN406	Statistical & Numerical Methods	3	1	0	4	3	80	10	10	100	40	--	--	--	--
Laboratories															
MN407	Mining Geology-II	0	0	3	2	--	--	--	--	--	--	25	25	50	25
MN408	Mine Surveying-I	0	0	3	2	--	--	--	--	--	--	25	25	50	25
MN409	Mining Machinery-I	0	0	3	2	--	--	--	--	--	--	25	25	50	25
MN410	Programming in C Language	0	0	3	2	--	--	--	--	--	--	25	25	50	25
	Mine Visits	0	0	2	0	Audit Course									
Total		18	6	14	--	--	--			600	--	--	--	200	--
Semester Total		38			27	800									

Note : Student has to undergo Practical Training at mines for four weeks (one month) duration during summer vacation.

Four Year Degree Course in the Faculty of Engineering & Technology
Course and Examination Scheme with Credit Grade System
V Semester B.E. (Mining Engineering)

Course Code	Subject	Teaching Scheme				Examination Scheme									
		Hours per week			No. of Credits	Theory						Laboratory			
Theory	L	T	P	Duration of Paper (Hrs.)		Max. Marks ESE	Max. Marks		Total	Min. Passing Marks	Max. Marks TW	Max. Marks POE	Total	Min. Passing Marks	
							Sessional								
					MSE		IE								
MN501	Rock Mechanics	3	1	0	3	3	80	10	10	100	40	--	--	--	--
MN502	Mine Climate Engineering	3	1	0	3	3	80	10	10	100	40	--	--	--	--
MN503	Drilling & Blasting Engineering	3	1	0	4	3	80	10	10	100	40	--	--	--	--
MN504	Mine Surveying - II	3	1	0	3	3	80	10	10	100	40	--	--	--	--
MN505	Mining Machinery - II	3	1	0	3	3	80	10	10	100	40	--	--	--	--
MN506	Mine Supports	3	1	0	4	3	80	10	10	100	40	--	--	--	--
Laboratories															
MN507	Rock Mechanics	0	0	3	2	--	--	--	--	--	--	25	25	50	25
MN508	Mine Climate Engg	0	0	3	2	--	--	--	--	--	--	25	25	50	25
MN509	Mine Surveying - II	0	0	3	2	--	--	--	--	--	--	25	25	50	25
MN510	Mining Machinery - II	0	0	3	2	--	--	--	--	--	--	25	25	50	25
	Mine Visits	0	0	2	0	Audit Course									
Total		18	6	14	--	--	--			600	--	--	--	200	--
Semester Total		38			28	800									

Note : Student has to undergo Practical Training at mines for four weeks (one month) duration during winter vacation.

Four Year Degree Course in the Faculty of Engineering & Technology
Course and Examination Scheme with Credit Grade System
VI Semester B.E. (Mining Engineering)

Course Code	Subject	Teaching Scheme				Examination Scheme									
		Hours per week			No. of Credits	Theory						Laboratory			
Theory	L	T	P	Duration of Paper (Hrs.)		Max. Marks ESE	Max. Marks		Total	Min. Passing Marks	Max. Marks TW	Max. Marks POE	Total	Min. Passing Marks	
	Sessional														
	MSE	IE													
MN601	Mineral Processing	3	1	0	3	3	80	10	10	100	40	--	--	--	--
MN602	Mine Rescue Engineering	3	1	0	3	3	80	10	10	100	40	--	--	--	--
MN603	Underground Coal Mining	4	0	0	4	3	80	10	10	100	40	--	--	--	--
MN604	Underground Metalliferous Mining	4	0	0	4	3	80	10	10	100	40	--	--	--	--
MN605	Surface Mining	4	0	0	4	3	80	10	10	100	40	--	--	--	--
Laboratories															
MN606	Mineral Processing	0	0	3	2	--	--	--	--	--	--	25	25	50	25
MN607	Mine Rescue Engineering	0	0	3	2	--	--	--	--	--	--	25	25	50	25
MN608	Vocational Training	0	0	2	2	--	--	--	--	--	--	50	--	50	25
	Mine Visits	0	0	2	0	Audit Course									
Total		18	2	10	--	--	--			500	--	--	--	150	--
Semester Total		30			24	650									

Note : Student has to undergo Practical Training at mines for four weeks (one month) duration during summer vacation.

Four Year Degree Course in the Faculty of Engineering & Technology
Course and Examination Scheme with Credit Grade System
VII Semester B.E. (Mining Engineering)

Course Code	Subject	Teaching Scheme				Examination Scheme									
		Hours per week			No. of Credits	Theory						Laboratory			
		L	T	P		Duration of Paper (Hrs.)	Max. Marks ESE	Max. Marks		Total	Min. Passing Marks	Max. Marks TW	Max. Marks POE	Total	Min. Passing Marks
								Sessional							
		MSE	IE												
MN701	Ground Control in Mines	3	1	0	3	3	80	10	10	100	40	--	--	--	--
MN702	Surface Mine Environment	3	0	0	3	3	80	10	10	100	40	--	--	--	--
MN703	Computer Applications in Mining	3	1	0	3	3	80	10	10	100	40	--	--	--	--
MN704	Mine Planning	3	1	0	4	3	80	10	10	100	40	--	--	--	--
MN705	Mine Systems Engineering	3	1	0	4	3	80	10	10	100	40	--	--	--	--
Laboratories															
MN706	Ground Control in Mines	0	0	3	2	--	--	--	--	--	--	25	25	50	25
MN707	Surface Mine Environment	0	0	3	2	--	--	--	--	--	--	25	25	50	25
MN708	Computer Applications in Mining	0	0	3	2	--	--	--	--	--	--	25	25	50	25
MN709	Project Seminar	0	0	2	2							50	--	50	25
	Mine Visits	0	0	2	0	Audit Course									
Total		15	4	13	--	--	--			500	--	--	--	200	--
Semester Total		32			25	700									

Note : Student has to undergo Practical Training at mines for four weeks (one month) duration during winter vacation.

Four Year Degree Course in the Faculty of Engineering & Technology
Course and Examination Scheme with Credit Grade System
VIII Semester B.E. (Mining Engineering)

Course Code	Course Title	Teaching Scheme				Examination Scheme									
		Hours per week			No. of Credits	Theory						Laboratory			
		L	T	P		Duration of Paper (Hrs.)	Max. Marks ESE	Max. Marks Sessional		Total	Min. Passing Marks	Max. Marks TW	Max. Marks POE	Total	Min. Passing Marks
								MSE	IE						
MN801	Mine Management	3	1	0	4	3	80	10	10	100	40	--	--	--	--
MN802	Mine Legislation & Safety	3	1	0	4	3	80	10	10	100	40	--	--	--	--
MN803	Mineral Economics	3	1	0	4	3	80	10	10	100	40	--	--	--	--
MN804	Elective-I: 1. Clean Coal Technologies 2. Geostatistics 3. Advanced Mine Surveying	3	0	0	3	3	80	10	10	100	40	--	--	--	--
MN805	Elective-II 1. Underground Space Technology 2. Mine Safety Engineering 3. Management Information System	3	0	0	3	3	80	10	10	100	40	--	--	--	--
Laboratories															
MN806	Project	0	0	4	4	--	--	--	--	--	--	50	50	100	50
MN807	Vocational Training	0	0	2	2	--	--	--	--	--	--	25	25	50	25
MN808	Survey Camp	0	0	2	2	--	--	--	--	--	--	25	25	50	25
Total		15	3	8	--	--	--			500	--	--	--	200	--
Semester Total		26			26	700									

Note : Total duration of Practical Training during vacations between third to eighth semester should be atleast two months out of which one month practical training should be completed before sixth semester.

GONDWANA UNIVERSITY, GADCHIROLI

Four Year Degree Course in the Faculty of Engineering & Technology
Course and Examination Scheme with Credit Grade System
B.E. (Mining Engineering)

SUBJECT WISE BOARD OF STUDIES AFFILIATION

BOARD OF STUDIES	SUBJECT CODES
Applied Sciences & Humanities	MN301, MN401, MN406
Electrical Engineering	MN304
Mechanical Engineering	MN305
Civil Engineering	MN303, MN405

VIII Semester B. E. (Mining Engineering)

Course Code: MN801
Title of the Course: Mine Management

Course Scheme					Evaluation Scheme (Theory)				
Lecture	Tutorial	Practical	Periods/week	Credits	Duration of paper, hrs	MSE	IE	ESE	Total
3	1	0	4	3	3	10	10	80	100

Unit	Contents	Hours
I	Introduction Evolution of modern management theory and practice; Principles of scientific management; Elements of management functions – planning, organisation and control; Systems and contingency approach to management; Structure and design of organisation for mining enterprises; Introduction to essential features of M.I.S. (Management Information System).	9
II	Personnel Management Manpower planning and recruitment, selection, training and development of human resource; Performance appraisal and merit rating; Motivation & Incentive; Leadership; Absenteeism; Organisation development.	9
III	Production Management Production forecasting, planning and control – short and long term – in mines; Determination of norms and standards of operations by work study; Analysis of mine capacities and capabilities; Quality control; Productivity – concept and measurement.	9
IV	Industrial Relations Human relations; Trade Union movement in India – its origin & evolution; Industrial Disputes Act; Discipline and enquiries, conflicts in an organization – sources and resolutions, communication .	9
V	Industrial Psychology Psychology and its relation with business, industry and management; Physical factors and their effect on management; Psychological tests – utility and development; Tests for selection and development; Fatigue; Accident proneness.	9
Total		45

Text cum Reference Book/s:

1. Human Resource Management by S.S. Khanka
2. Industrial Engineering & Production Management by Telsang Mert T
3. Text book on Human Psychology by Sarda Subrahmanyam, H D Singh, K Madhavankutty
4. Business Organisation & Management by Shukla M.C.
5. Basics of Production & Operations Management by S A Chunawalla
6. Essentials of Business Communication Skills for Engineers by Urmila Rai & S.M. Rai
7. Human Resource Management & Industrial Relations by P.N. Subramani

VIII Semester B. E. (Mining Engineering)

Course Code: MN802
Title of the Course: Mine Legislation & Safety

Course Scheme					Evaluation Scheme (Theory)				
Lecture	Tutorial	Practical	Periods/week	Credits	Duration of paper, hrs	MSE	IE	ESE	Total
3	1	0	4	3	3	10	10	80	100

Unit	Contents	Hours
I	Introduction General principles of mining laws; Philosophy of mining legislation; Role and functions of DGMS; Mines Act; Mines Rule.	9
II	Mining Laws The Coal Mines Regulations, 1957, Relevant Standing orders and DGMS circulars.	9
III	Mining Laws The Metalliferous Mines Regulations, 1961; Relevant standing order & DGMS Circular.	9
IV	Mine Accidents Definition, classification and subclassification, various terminologies with respect to accident, causes of accident, loss due to accident, general principles of accident prevention, accident investigation and reporting.	9
V	Indian Electricity Rule, Rescue Rule Occupational health disease, Measures for improving safety levels in mines; MAP & ZAP; Injury Frequency, Risk-Assessment and Management, Emergency Organisation, duty of various mining personnel in emergency.	9
Total		45

Text cum Reference Book/s:

1. Indian Mining Legislation – A Critical Appraisal Vol I and II by Rakesh & Prasad, Publishers Mrs Asha Lata, Varanasi.
2. Classified Mine Circulars issued by DGMS, Dhanbad.
3. Safety in Mines: A survey of accidents, their causes and prevention by Prof. B K Kejriwal
4. CMR, MMR, Rescue Rule, Indian Electricity Rule, DGMS Circulars published by Govt. of India.

VIII Semester B. E. (Mining Engineering)

Course Code: MN803
Title of the Course: Mineral Economics

Course Scheme					Evaluation Scheme (Theory)				
Lecture	Tutorial	Practical	Periods/week	Credits	Duration of paper, hrs	MSE	IE	ESE	Total
3	1	0	4	3	3	10	10	80	100

Unit	Contents	Hours
I	<p>Introduction Uniqueness and economic importance of mineral industry; Concept & classification of mineral resource; Geographical distribution of important mineral deposits and mining fields in India; National mineral policy</p> <p>Computation of Reserves Computation of tonnage, average assay width, stoping width, clean width, milling width, average length etc.; Reliability of mine sampling.</p>	9
II	<p>Mine Sampling Definition, purpose and scope; Size of sample; Classes of sample; Methods of sampling; Errors in sampling; Salting; Safeguards against salting.</p>	9
III	<p>Valuation of Mineral Property Examination and valuation of mines/mineral properties; Time value of money; Present value & its computation; Life of a mine; Concepts of redemption of capital, depreciation; Preparation of valuation reports.</p>	9
IV	<p>Conservation of Mineral Resource Scope and limitations; Losses of minerals in mining; Dilution and recovery</p> <p>Costs of Mining Capital and operating costs; Factors affecting operating costs; Standard cost and forecast; Budget & budgetary control.</p>	9
V	<p>Economic Feasibility Need for economic analysis; Sources of finance and the cost of capital; Methods of investment appraisal; Risk Analysis; Royalty, taxes and duties; Small mines and their socio-economic significance; Mineral price and pricing; Price Index.</p>	9
Total		45

Text cum Reference Book/s:

1. Mineral economics by Sinha & Sharma
2. Mineral Economics by R.T. Deshmukh
3. Mineral Economics by K. Chatterjee

VIII Semester B. E. (Mining Engineering)

Course Code: MN804

Title of the Course: Elective-I Clean Coal Technologies

Course Scheme					Evaluation Scheme (Theory)				
Lecture	Tutorial	Practical	Periods/week	Credits	Duration of paper, hrs	MSE	IE	ESE	Total
3	1	0	4	4	3	10	10	80	100

Unit	Contents	Hours
I	Life cycle of coal, coal characterization, classification system of coal, rank and grade of coal, C-H graph.	9
II	Coal beneficiation – Feed grade dry and wet coal beneficiation techniques, chemical and biological methods of coal cleaning. Coal washing: Objectives and Techniques; Washability curve.	9
III	Clean coal technology: Definition and Objectives, Technology Options; Pre-combustion, Combustion, Post Combustion and Conversion CCTs. Coal combustion options: FBC, IGCC, co-generation options, CO ₂ Sequestration options: Capture and storage of CO ₂ (CCS),	9
IV	Coal Bed Methane (CBM) - Recovery and utilization, Coal to Liquid Technology (CTL), Coal Mine Methane (CMM).	9
V	Coal Gasification (In-situ and surface Gasification Techniques) – Introduction, scope in India, Brief description of the techniques.	9
Total		45

Text Book/s:

1. Coal Preparation by J Osborne
2. Mineral Dressing by M A Gaudin / S K Jain.
3. Advanced Coal Mining by Vorobjev and Deshmukh.

Reference/s:

4. CCT Initiative – Roadmap for future development, CCT DST-BHEL Workshop, Oct'2006.
5. Carbon capture and storage technologies, International Energy Agency, 2008.
6. Energy technology perspectives: Conservation, carbon dioxide reduction, and production from alternate sources, N R Neelameggham *et al* (eds), JWS Wiley Publications, 2009.
7. CO₂ sequestration technologies for clean energy, S Z Qasim and Malti Goel (eds), Daya Publishing House, New Delhi, 2010.
8. Integrated energy policy, annual report 2008, Department of Coal, Govt of India.

VIII Semester B. E. (Mining Engineering)

Course Code: MN804
Title of the Course: Elective-I Geostatistics

Course Scheme					Evaluation Scheme (Theory)				
Lecture	Tutorial	Practical	Periods/week	Credits	Duration of paper, hrs	MSE	IE	ESE	Total
3	1	0	4	4	3	10	10	80	100

Unit	Contents	Hours
I	Definition of resource and reserve, Conventional Reserve estimation techniques, Introduction to geostatistical concept.	9
II	Review of classical statistics, Regionalised variables, Random Process and Stationarity; Variogram modelling, Regularization.	9
III	linear Kriging methodology and application, Multivariate Geostatistics and Cokriging, Variance volume relationships.	9
IV	Basics of non-parametric geostatistics and indicator Kriging, Estimation vs. Simulation, Conditional Simulation.	9
V	Introduction to GEOEAS/ GEOPACK software.	9
Total		45

Text cum Reference Book/s:

1. Geostatistical ore reserve estimation by M David, Elsevier Scientific Publishing Co., Amsterdam.
2. An Introduction to Geostatistical methods of mineral evaluation by J M Rendu, SAIMM Monograph, Johannesburg, SA.
3. An introduction to applied Geostatistics by E H Issaks and R M Srivastava, Oxford University Press, Newyork.
4. Practical Geostatistics by I Clark, Elsevier Applied Science Publishers, London.

VIII Semester B. E. (Mining Engineering)

Course Code: MN804

Title of the Course: Elective-I Advanced Mine Surveying

Course Scheme					Evaluation Scheme (Theory)				
Lecture	Tutorial	Practical	Periods/week	Credits	Duration of paper, hrs	MSE	IE	ESE	Total
3	1	0	4	4	3	10	10	80	100

Unit	Contents	Hours
I	<p>Geodesy Physical and geometric geodesy; Spheroid and ellipsoid; Geocentric, geodetic and astronomical co-ordinates; Orthometric and dynamic heights; Geodetic instrumentation and techniques</p> <p>National Grid Map projections; UTM; Different co-ordinate systems; Transformation of co-ordinates.</p>	9
II	<p>Geographic Information System (GIS) Introduction; Working principle; Database associated with GIS; Application of GIS in surface mining, land development, road construction etc.</p>	9
III	<p>Global Positioning System (GPS) Introduction; Working principle; Application in surface mining including tracking of important equipments; Application to mine survey and face monitoring.</p>	9
IV	<p>Astronomy Introduction and scope; Astronomical triangle; Conversion of time systems; Precise determination of azimuth by astronomical methods Satellite Imagery – Use in cartography.</p>	9
V	<p>Remote Sensing Introduction, working principle and applications in mining engineering</p> <p>Electronic Distance Measurement (EDM) Working principle and application in mine survey, Total Station, Synthetic Aperture Radar (SAR) Interferometry – principle and applications in subsidence survey and resource estimation</p>	9
Total		45

Text cum Reference Book/s:

1. Surveying & Field Work Volume III by Dr. B. C. Punmia, Laxmi Pub. Pvt. Ltd., New Delhi.
2. Plane and Geodetic Surveying by Aylmer Johnson, 2014, CRC Press.
3. GPS for Geodesy by Peter J.G. Teunissen and Alfred Kleusberg, 1998, Springer Publications.
4. Introduction to Remote Sensing by Arthur P Cracknell, 2007, CRC Press.

VIII Semester B. E. (Mining Engineering)

Course Code: MN805
Title of the Course: Elective-II Tunneling and Underground Space Technology

Course Scheme					Evaluation Scheme (Theory)				
Lecture	Tutorial	Practical	Periods/week	Credits	Duration of paper, hrs	MSE	IE	ESE	Total
3	1	0	4	4	3	10	10	80	100

Unit	Contents	Hours
I	Rock mass classification, RMR and Q-system.	9
II	Stability analysis of tunnels, elastic and plastic deformation, stress conditions etc.	9
III	Estimation of support requirement of a tunnel under various types of rocks.	9
IV	Tunnel boring machine, types, selection criteria, tunneling under massive structures.	9
V	Numerical modeling of tunnels, Tunnel ventilation.	9
Total		45

Text cum Reference Book/s:

1. Rock Mechanics for Underground Mining – B.H.G. Brady and E.T. Brown, Pub. Chapman & Hall.
2. Engineering in Rocks for slopes, Foundations & Tunnels – T. Ramamurthy, PHI Publishers.
3. Fundamentals of Rock Mechanics – J.C. Jaeger and N.G.W. Cook, Chapman & Hall
4. Ground Mechanics in Hard Rock Mining by M L Jeremic, Oxford Publishers
5. Design of Supports in Mines by Cemal Biron and Ergin Arioglu, John Wiley and Sons
6. Rock Mechanics and design of structures in rock by Obert & Duall, Pub: John Willey & Sons
7. Experimental stress analysis by Railey & Dalley, Pub: McGraw Hill Book Company
8. Rock Mechanics Design in Mining and Tunneling by Z.T. Bieniawski, Pub: A.A. Balkema, BR Rotterdam, Netherlands.
9. Underground excavations in Rock by Hoek E. and Brown, E.T., Institutions of Mining and Metallurgy, London
10. Rock characterization, testing and monitoring by Brown, E.T., – ISRM suggested method, Pergamon Press, Oxford.

VIII Semester B. E. (Mining Engineering)

Course Code: MN805
Title of the Course: Elective-II Mine Safety Engineering

Course Scheme					Evaluation Scheme (Theory)				
Lecture	Tutorial	Practical	Periods/week	Credits	Duration of paper, hrs	MSE	IE	ESE	Total
3	1	0	4	4	3	10	10	80	100

Unit	Contents	Hours
I	Introduction Safety management systems in Indian mining industry; Engineering aspects of safety management; Recent trends of development of safety engineering approaches.	9
II	Risk Assessment Basic concept of risk, reliability and hazard potential; Elements of risk assessment; Statistical methods; Control charts.	9
III	Risk Assessment Appraisal of advanced techniques – fault tree analysis; Failure mode and effect analysis; Quantitative structure – activity relationship analysis; Fuzzy model for risk assessment.	9
IV	Safety Audit and Control Measurement of safety efficiency; Safety audit methods; Safety records management.	9
V	Safety Measures Safety legislation; Safety meetings; Constitution of safety committees including pit safety committee. Safe Practices Ergonomics; Safe operational practices; Safety codes; Implementation and monitoring of safety programmes.	9
Total		45

Text Book/s:

1. Mine Safety - A Modern Approach by Dr B S Dhillon, 2010, Springer Publications.
2. Safety in Mines: A survey of accidents, their causes and prevention by Prof. B K Kejriwal

References:

3. Risk Management Handbook for the Mining Industry, MGD 1010, Minerals industry safety and health risk management guideline, NSW - Department of Primary Industries, 1997.
4. Safety and Health Commission for the Mining and other Extractive Industries, 1998, Guidance for Carrying out Risk Assessment at Surface Mining Operations, Doc. No 5995/2/98-EN.
5. Hazard, Risk and Vulnerability Analysis Tool Kit, January 2004, Ministry of Public Safety, British Columbia.
6. Improving Safety Culture – A Practical Guide by Doominic Cooper, 2001, Applied Behavioral Science, John Wiley and Sons.

VIII Semester B. E. (Mining Engineering)

Course Code: MN805
Title of the Course: Elective-II Management Information Systems

Course Scheme					Evaluation Scheme (Theory)				
Lecture	Tutorial	Practical	Periods/week	Credits	Duration of paper, hrs	MSE	IE	ESE	Total
3	1	0	4	4	3	10	10	80	100

Unit	Contents	Hours
I	<p><u>Introduction</u> Management Information Systems (MIS): MIS, Their Rationale in Modern Age Business Functions, Increasing Importance of Information Technology, Components of MIS, Characteristics of MIS, Functions of MIS. Information: Data & Information, Types of Information (Internal, External, Strategic, Tactical, Operational Information), Quality of Information, Capturing of Information. System Concepts: Definitions, Types of Systems, Terminology (Boundary, Environment, Interface, Cybernetic Systems, and Systems & Sub-Systems etc), Synergy and Systems Approach.</p>	9
II	<p>Decision-Making Purpose, Models of Decision Making, Decision Making Process and Levels of Programmability (Structured, Semi-structured and Unstructured Problems), Decision-Making under certainty, risk and uncertainty. Systems Development and Analysis Systems Development Cycle, System Analysis, Systems Design & Prototyping</p>	9
III	<p>Information Systems Planning Planning & its significance, Approaches to Planning (Top-Down Planning, Bottom-up Planning and Planning by Critical Success Factors) IS Planning – Prerequisites, Planning Terminology, Stage Models of IS Planning, Information Requirement Analysis and Resource Allocation. Electronic Commerce Applications Business-to-Commerce Applications, Business-to-Business Commerce, Supply Chain Management.</p>	9
IV	<p>Types of Information Systems Transaction Processing Systems, Management Information Systems, Decision Support Systems, Executive Information Systems etc. Mine Management Information Systems Production Information, Human Resource Information Systems, Sales & Marketing Information, Stores & Inventory Information, Geotechnical Information, Inventory Information.</p>	9
V	<p>Information Technology in MIS Data Communications, Types of Data Communications, Communications Direction & Synchronization, Channels & Media, Computer Networks (LAN, WAN, MAN etc.), Internet, Intranet & Extranet. Network Topology. Data Security Issues.</p>	9
Total		45

Text cum Reference Book/s:

1. Management Information Systems – Effy Oz, Vikash Publishing House
2. Management Information Systems – James A. O'Brien, Galgotia Publications Pvt. Ltd.
3. Management Information Systems – D.P. Goel, MacMillan
4. Information Systems for Modern Management – Murdick, Ross & Claggett, PHI Pvt. Ltd.
5. Management-Oriented Management Information Systems – Jerome Kanter, PHI Pvt. Ltd.
