

Syllabus-2023-2024

BCA

Title of the Course	Human Resource Management
Course Code	BCA 607

Part A

Year	3rd	Semester	6th	Credits	L	T	P	C
					2	0	0	2
Course Type	Theory only							
Course Category	Disciplinary Major							
Pre-Requisite/s	Students should be familiar with Management of Human Resource in Organizations.				Co-Requisite/s			
Course Outcomes & Bloom's Level	CO1- CO1: Develop the understanding of the concept, functions and processes of human resource management and to understand its relevance in organizations. (BL1-Remember) CO2- CO2: Integrate perspective on role of HRM in modern business. Ability to plan human resources, forecasting & strategies. (BL2-Understand) CO3- CO3: Measure- Employee Involvement, Diversity, competencies, Absenteeism, Employee Turnover, Employee Retention, Job Satisfaction, Employee Loyalty, Employee Commitment, Stress and Performance. (BL3-Apply) CO4- CO4: Develop and use of Performance Management System, Write a job advertisement. (BL4-Analyze) CO5- CO5: Design and formulate various HRM processes such as Recruitment, Selection, Training, Salary and Reward Administration, Compensation, Retention, Separation etc. (BL5-Evaluate)							
Courses Elements	Skill Development X Entrepreneurship X Employability X Professional Ethics X Gender ✓ Human Values X Environment X		SDG (Goals)		SDG4(Quality education) SDG8(Decent work and economic growth)			

Part B

Modules	Contents	Pedagogy	Hours
Unit-1	Understanding concept of Human Resource Management Concept, nature, scope, objectives and importance of HRM, Evolution of HRM, Challenges of HRM, Personnel Management vs HRM, Difference between PM and HRM, Role of HR Professional / Manager, Qualities of successful HR. Structure of HR Department, line and staff aspects of HRM.	Lectures with whiteboard/PPT, Recorded video/interactive videos	6
2	Acquisition of Human Resources Human Resource Planning: Process of human resource planning, forecasting demand and supply, succession planning. Job Analysis: Uses and Methods, Job description and Job specification. Recruitment, selection & orientation: Internal & external sources of recruitment, e-recruitment, advantages & problems of internal & external recruitment, steps in placement and selection process, Selection tests and Interview, Orientation Programme and Induction. Job changes - transfers, promotions/demotions, separations	Lectures with whiteboard/PPT, Recorded video/interactive videos	10
3	Training and Development Concept and importance of training; types of training; methods of training; design of training programme; evaluation of training effectiveness; executive development - process and techniques, Mentoring and Coaching	Lectures with whiteboard/PPT, Recorded video/interactive videos	10
4	Performance Management System Performance and Potential appraisal - concept and objectives; traditional and modern methods, limitations of performance appraisal methods, Rating Errors and Biases, Uses of performance appraisal, Career Management: Career anchors, career life stages, career planning. .	Lectures with whiteboard/PPT, Recorded video/interactive videos	9
5	Compensation Define reward, compensation, wage, salary, job evaluation - concept, process and significance, factors affecting employee remuneration; components of employee remuneration - base and supplementary, minimum, fair and living wage, types of benefits and services, incentive schemes. Maintenance: overview of employee welfare, health and safety, social security.	Lectures with whiteboard/PPT, Recorded video/interactive videos	8

Part C

Modules	Title	Indicative-ABCA/PBL/ Experiments/Field work/ Internships	Bloom's Level	Hours
1-5		PBL		

Part D(Marks Distribution)

Theory					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation
100	40	60	18	40	
Practical					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation

Part E

Books	Gerry Dessler, Human Resource Management, Pearson Publication
Articles	
References Books	Human Resource Management by R. Wayne Mondy, Pearson Publications, Delhi
MOOC Courses	
Videos	

Course Articulation Matrix

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	1	-	-	1	-	-	2	-	-	-	-	-	-	-
CO2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	1	-	-	2	-	-	-	-	-	-	-	-	1	2	3
CO4	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
CO5	-	-	-	-	3	-	-	1	-	-	-	-	-	-	-
CO6	-	-	-	-	-	-	-	1	-	2	-	-	-	-	-

Syllabus-2023-2024

BTech-ElectricalEngineering

Title of the Course	Smart Grid and Energy Management
Course Code	EEM0824

Part A

Year	4th	Semester	8th	Credits	L	T	P	C
					3	1	0	4
Course Type	Theory only							
Course Category	Discipline Electives							
Pre-Requisite/s				Co-Requisite/s				
Course Outcomes & Bloom's Level	CO1- Understand the fundamental principles, methodologies, and practices in energy management. (BL1-Remember) CO2- Conduct comprehensive energy audits to identify energy-saving opportunities and strategies. (BL2-Understand) CO3- Evaluate and implement energy efficiency measures in residential, commercial, and industrial buildings. (BL3-Apply) CO4- Explore and analyze sustainable energy solutions and their impact on energy management practices. (BL4-Analyze) CO5- Develop and implement effective energy management systems tailored for different facilities. (BL5-Evaluate)							
Courses Elements	Skill Development X Entrepreneurship ✓ Employability ✓ Professional Ethics ✓ Gender ✓ Human Values X Environment X	SDG (Goals)		SDG4(Quality education) SDG7(Affordable and clean energy) SDG8(Decent work and economic growth) SDG9(Industry Innovation and Infrastructure)				

Part B

Modules	Contents	Pedagogy	Hours
Unit-1	Introduction to Smart Grid: Evolution of electric grid, Definitions, Need for smart grid, Smart grid drivers, Functions of smart grid, Opportunities and barriers of smart grid, Difference between conventional grid and smart grid, Concept of resilient and self-healing grid. Components and architecture, Inter-operability, Impacts of smart grid on system reliability, Present development and international policies in smart grid, Smart grid standards.	Talks and presentations	12
Unit-2	Information and Communication Technology in Smart Grid: Wired and wireless communication -radio mesh, ZIGBEE, 3G, 4G and 5G, Digital PLC, DSL, Wi-Max, LAN, NAN, HAN, Wi-Fi, Bluetooth, Bluetooth Low Energy (BLE), Li-Fi, Communication Protocols in Smart grid, Introduction to IEC 61850 standard and benefits, IEC Generic Object-Oriented Substation Event - GOOSE, Substation model.	Talks and presentations	13
Unit-3	Smart grid Technologies Part I: Introduction to smart meters, Electricity tariff, Real Time Pricing- Automatic Meter Reading (AMR) - System, Services and Functions, Components of AMR Systems, Advanced Metering Infrastructure (AMI), Plug in Hybrid Electric Vehicles (PHEV), Vehicle to Grid (V2G), Grid to Vehicle (G2V), Smart Sensors, Smart energy efficient end use devices, Home & Building Automation, Intelligent Electronic Devices (IED) and their application for monitoring & protection: Digital Fault Recorder (DFR), Digital Protective Relay (DPR), Circuit Breaker Monitor (CBM), Phasor Measurement Unit (PMU), Standards for PMU, Time synchronization techniques, Wide Area Monitoring System (WAMS), control and protection systems (Architecture, components of WAMS, and applications: Voltage stability assessment, frequency stability assessment, power oscillation assessment, communication needs of WAMS, remedial action scheme).	Talks and presentations	11
Unit-4	Smart grid Technologies Part II: Smart substations, Substation automation, Feeder automation, Fault detection, Isolation, and Service Restoration (FDIR), Geographic Information System (GIS), Outage Management System (OMS), Introduction to Smart distributed energy resources and their grid integration, Smart inverters, Concepts of microgrid, Need and application of microgrid – Energy Management- Role of technology in demand response- Demand side management, Demand side Ancillary Services, Dynamic line rating.	Talks and presentations	10
Unit-5	Cloud computing in smart grid: Private, Public and hybrid cloud. Types of cloud computing services- Software as a Service (SaaS), Platform as a service (PaaS), Infrastructure as a service (IaaS), Data as a service (DaaS), Cloud architecture for smart grid. Cyber Security - Cyber security challenges and solutions in smart grid, Cyber security risk assessment, Security index computation. Power Quality Management in Smart Grid- Fundamentals, Power Quality (PQ) & Electromagnetic Compatibility (EMC) in smart grid, Power quality conditioners for smart grid. Case study of smart grid.	Talks and presentations	14

Part D(Marks Distribution)

Theory					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation
100	40	60	18	40	22
Practical					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation

Part E

Books	1. Stuart Borlase "Smart Grid Infrastructure Technology and Solutions", CRC Press; 2nd edition. 2. James Momoh, "Smart Grid: Fundamentals of Design and Analysis", Wiley, 2012. 3. S. Chowdhury, "Microgrids and Active Distribution Networks." Institution of Engineering and Technology, 2009.
Articles	
References Books	4. Janaka Ekanayake, Kythira Liyanage, Jianzhong Wu, Akihiko Yokohama, Nick Jenkins- "Smart Grids Technology and Applications", Wiley, 2012. 5. Clark W.Gellings, "The Smart Grid: Enabling Energy Efficiency and Demand Response", CRC Press. 6. Jean Claude Sabonnadière, Nouredine Hadjsaid, "Smart Grids", Wiley Blackwell.
MOOC Courses	
Videos	

