ADD-ON COURSES

FOR

MASTER OF COMPUTER APPLICATIONS

2-YEAR/4-SEMESTER

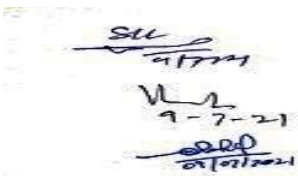
Add-On Course - 01

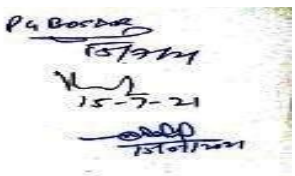
MCA-AOC-01: Green Computing							
Course Type	Course Credit	Contact Hours/ Week	Delivery Mode	Maximum Marks		Exam Duration	Assessment Methods
				External	Internal		
Extra Credit Theory	02	02	Lecture	35	15	3 Hours	TEE/MTE/ Assignment/ Attendance

Instructions to paper setter for Term-End Examination: The question paper will consist of five questions in all. First question will be compulsory and will consist of five short questions of 2 marks each covering the whole syllabus. In addition, four more questions will be set unit-wise comprising of two questions from each of the two units. The candidates are required to attempt two more questions selecting at least one question from each unit.

Course Objectives: The objective of this course is to make the students aware about impact of information technology and computing industry on the environment/ecology and how can they contribute in saving the mother earth by aligning their buying/operating/disposal practices in respect of computing and IT gadgets.

Course Outcomes	At the end of this course, the students will be able to:
CO1	enumerate the concepts and issues in: green computing, green IT, electronic waste management, IEEE 1680.
CO2	understand and describe the concept and issues in: green IT, impacts of electronics manufacturing, usage and disposal on human ecology, standards for green computing.
CO3	use and apply the information/knowledge gained thus far in: their daily life, procurement, operations and disposal of IT, electrical and electronic products.
CO4	categorise (i) IT, electrical and electronic products as bronze green, silver green, gold green; (ii) e-waste management practices as safe or unsafe for human and ecology.
CO5	choose between (i) environmentally safe or unsafe e-waste management practice and (ii) IT, electrical and electronic products that has been designed/manufactured using an environmentally sage process.
CO6	formulate a green computing/IT policy for the organization they work for.





CO-PEO Mapping Matrix for Course MCA-AOC -01

COs	PEO1	PEO2	PEO3	PEO4	PEO5
CO1	1	3	1	3	3
CO2	2	3	1	3	3
CO3	3	3	1	3	3
CO4	3	3	1	3	3
CO5	3	3	1	3	3
CO6	3	3	1	3	3
Average	2.5	3	1	3	3

CO-PO Mapping Matrix for Course MCA-AOC -01

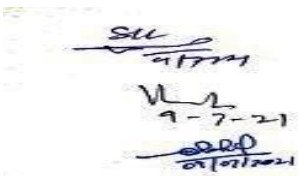
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	3	1	1	1	-	3	1	-	3	-	-
CO2	2	1	1	3	1	-	3	2	-	3	-	-
CO3	3	1	1	3	3	-	3	3	-	3	-	-
CO4	2	1	1	3	1	-	3	3	-	3	-	-
CO5	2	1	3	1	3	-	3	3	-	3	-	-
CO6	2	3	3	3	3	-	3	3	-	3	-	-
Average	2	1.6	1.6	2.3	2	-	3	2.5	-	3	-	-

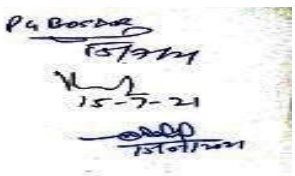
CO-PSO Mapping Matrix for Course MCA-AOC -01

COs	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	-	3	1	-
CO2	3	-	3	2	-
CO3	3	-	3	3	-
CO4	3	-	3	3	-
CO5	3	-	3	3	-
CO6	3	-	3	3	-
Average	3	-	3	2.5	-

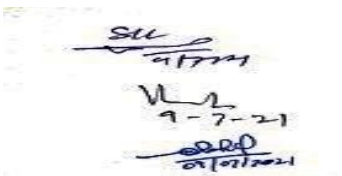
Course Content
MCA-AOC -01: Green Computing

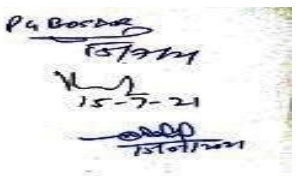
Unit I	The concept, importance and issues involved in Green Computing/ Information Technology; Carbon footprint in manufacturing of computing and IT products; other effluents in IT manufacturing; the concept of design for environment;





Unit - II	Carbon footprint in operations of IT/computing gadget; green IT usage; Data centre and server farms design, power, cooling and location; virtualization; BPR for sustainable IT/computing.
Unit - III	Disposal practices in e-waste; e-waste recycling, formal vs. informal e-waste recycling; extended producer responsibility; IT for paperless offices; IT for saving travel cost, time and environment;
Unit - IV	Electronic waste management regulations in India; IEEE 1680 standard for green computing.
Text/Reference Books	
Text Books	1. John Lamb, The Greening of IT – How Companies Can Make a Difference for the Environment" IBM Press, 2009.
Reference Books	1. Toby J. Velete, Anthony T. Velete, Robert Elsenpeter, Green IT – Reduce Your Information System's Environmental Impact While Adding to the Bottom Line" 1e, McGraw-Hill, 2008.





Add-On Course - 02

MCA-AOC -02:Cyber Laws and Ethics in Computing							
Course Type	Course Credit	Contact Hours/ Week	Delivery Mode	Maximum Marks		Exam Duration	Assessment Methods
				External	Internal		
Extra Credit Theory	02	02	Lecture	35	15	3 Hours	TEE/MTE/ Assignment/ Attendance

Instructions to paper setter for Term-End Examination: The question paper will consist of five questions in all. First question will be compulsory and will consist of five short questions of 2 marks each covering the whole syllabus. In addition, four more questions will be set unit-wise comprising of two questions from each of the two units. The candidates are required to attempt two more questions selecting at least one question from each unit.

Course Objectives: The objective of this course is to make the students aware about the laws governing cyberspace and also about the professional ethics in computing and IT profession.

Course Outcomes	At the end of this course, the students will be able to:
CO1	define: most common cybercrimes, main sections/clauses of IT Act 2000, major IPRs, main ethical issues in IT profession.
CO2	understand and describe: commonly occurring cybercrimes, main sections of IT Act 2000, intellectual property rights, ethical issues in IT profession and ACM ethics code.
CO3	use and apply: information/knowledge gained thus far in their daily life in avoiding cyber law and IPR infringements, prevent and avoid cybercrimes and practice the code of computing professional ethics.
CO4	categorise: (i) cybercrimes and cyber offences, (ii) IPR issues and ethics for individuals and IT professionals.
CO5	justify: deployment of cybersecurity system for an individual or an organization and following the cyber laws, IPR laws and IT professional ethics.
CO6	formulate: cybersecurity policy, code of ethics and IPR policy for the organization they work for.

CO-PEO Mapping Matrix for Course MCA-AOC -02

COs	PEO1	PEO2	PEO3	PEO4	PEO5
CO1	1	3	1	3	3
CO2	2	3	1	3	3
CO3	3	3	1	3	3
CO4	3	3	1	3	3
CO5	3	3	1	3	3
CO6	3	3	1	3	3
Average	2.5	3	1	3	3

CO-PO Mapping Matrix for Course MCA-AOC-02

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

CO1	1	3	1	1	1	-	3	1	-	3	-	-
CO2	2	1	1	3	1	-	3	2	-	3	-	-
CO3	3	1	1	3	3	-	3	3	-	3	-	-
CO4	2	1	1	3	1	-	3	3	-	3	-	-
CO5	2	1	3	1	3	-	3	3	-	3	-	-
CO6	2	3	3	3	3	-	3	3	-	3	-	-
Average	2	1.6	1.6	2.3	2	-	3	2.5	-	3	-	-

CO-PSO Mapping Matrix for Course MCA-AOC-02

COs	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	-	3	1	3
CO2	3	-	3	1	3
CO3	3	-	3	1	3
CO4	3	-	3	1	3
CO5	3	-	3	1	3
CO6	3	-	3	1	3
Average	3	-	3	1	3

Course Content
MCA-AOC-02:Cyber Laws and Ethics in Computing

Unit I	Cyber laws in general, IT Act 2000 and its amendments, various provisions of IT Act to deal with cyber offences and cybercrimes. Case of Section 66A of IT Act 2000.
Unit - II	Cybercrime: classification and typography, statistics, and issues; review of Indian cyber security strategy, privacy issues.
Unit - III	Intellectual Property: Copy rights, Patents, Trade Secret Laws, Key Intellectual property issues, Plagiarism, Competitive Intelligence, Cybersquatting, Information warfare policy.
Unit - IV	Ethics in business world, Ethics in IT, Ethics for IT professionals and IT users, IT professional malpractices, communications eavesdropping, ACM ethics code.
Text/Reference Books	
Text Books	George Reynolds, "Ethics in information Technology", 5e, Cengage Learning. Debora Johnson," Computer Ethics", 3e, Pearson Education. Sara Baase, "A Gift of Fire: Social, Legal and Ethical Issues, for Computing and the Internet," PHI Publications. Mike W Martin and Roland Schinzinger, Ethics in Engineering, Tata McGraw Hill, 2003.
Reference Books	Michael Cross, Norris L Johnson, Tony Piltzecker, Security, Shroff Publishers and Distributors Ltd. Hon C Graff, Cryptography and E-Commerce - A Wiley Tech Brief, Wiley Computer Publisher, 2001. Govindarajan M, Natarajan S, Senthil Kumar V S, Engineering Ethics, Prentice Hall of India, 2004.