

MCA Curriculum 2018-19: UGC / NEP 2020 / NAAC / OBE / Bloom's / Industry Relevance — One Page Analysis

Evidence from syllabus	Policy / quality reading	Actionable assessment design
CBCS, credits, L-T-P-C-S, CIA/ESE, CO-PO mapping, BTL tags, practicals, MOOCs/e-books and mini project.	UGC CBCS + OBE aligned; NEP 2020 supports flexibility, skills, digital learning and employability; NAAC needs attainment and improvement proof.	Progressive: R/U 15%, Apply 25%, Analyse 30%, Evaluate/Create 30%; use rubrics, portfolios, demos, viva, peer review and industry problems.

Subject cluster	Bloom + outcome	Industry check	Assessment pattern	Bibliography
Programming, OOP, Data Structures	BTL 3-4: code, trace, analyse complexity; CO attainment by lab rubric plus test items.	Compare theory with deployable Python/Java modules, Git history, tests and API use.	Weekly lab 20, code review 10, quiz 10, mini task 20, ESE problem design 40.	Core texts useful; add current docs, coding platforms and GitHub workflows.
DBMS, Web, Software Engineering	BTL 4: ER/UML, normalization, architecture, testing; PO 3/5/8 evidence.	Build CRUD app, database design, security, usability, agile board and client demo.	Case analysis 15, design file 15, sprint demo 20, viva 10, integrated task 40.	Relevant but dated; add PostgreSQL/MySQL docs, OWASP and Agile/Scrum guides.
Statistics, Data Mining, ML, Analytics	BTL 3-5: model, compute, interpret, validate; track datasets, notebooks and metrics.	Use datasets, dashboards and ML pipelines; compare accuracy, ethics and explainability.	Dataset lab 20, notebook 20, model comparison 20, viva 10, ESE scenario 30.	Foundational; add Kaggle/UCI, scikit-learn, NPTEL/SWAYAM and recent papers.
Networks, Cloud, Cyber / Big Data electives	BTL 4-5: configure, simulate, secure, evaluate limits; map to PO 5/6/10.	Packet captures, cloud deployment, threat modelling, big-data workflow and cost study.	Simulation 15, security audit 15, deployment log 20, reflection 10, ESE design 40.	Add RFCs, cloud vendor docs, CERT-In, NIST, Kubernetes and Spark docs.
Projects, communication, lifelong learning	BTL 5-6: evaluate/create; PSO/PEO proof by prototype, report,...	Industry mentor, local problem, internship deliverables, ethics/IP check.	Proposal 10, SRS/design 20, prototype 30, demo/viva 20, report/reflection 20.	MOOC/e-books support extension; require annotated bibliography and source validation.

Implementation checklist	Question-paper progression	NAAC / NEP evidence to retain
CO rubrics; map questions/labs to CO-PO-BTL; compute direct + indirect attainment; close gaps via bridges, electives, internships and MOOCs with...	Part A concepts; B application/programming; C case analysis; D design/evaluate/create. Increase unseen, open-ended,...	Course file, lesson plan, question map, rubric, attainment sheet, student samples, feedback action report, BoS minutes and revised bibliography.