

MCA (Big Data Analytics) R-2018 Syllabus — One-Page Comparative Critical Analysis

HITS, Dept. of Computer Applications | Mapped vs UGC · NEP-2020 · NAAC · OBE · Bloom's Taxonomy · Industry Relevance

Dimension	Syllabus Status (R-2018)	Mapping & Industry View	Recommendation / Drawback
UGC / CBCS / LOCF	CBCS adopted; PEO, 12 PO, PSO defined; 23 cr/sem; Core+Elective+Lab.	Compliant in form.	Add explicit Course Outcomes & CO-PO matrix; publish attainment formula.
NEP-2020	Industry specialisation, MOOC links, Comm. course.	Partial alignment.	Add multi-disciplinary basket, multi entry/exit, IKS, mandatory internship, ABC credits.
NAAC	Vision/Mission, e-resources, R-2018 revision.	Partial — no feedback evidence.	Stakeholder feedback loop, ICT-integration metric, value-added courses for AQAR.
OBE	POs aligned to graduate attributes.	Weak operational layer.	Tag every module with action-verb COs; map to POs/PSOs with weights.
Bloom's Taxonomy	Reaches L1-L3 (Remember→Apply); few L4 (Analyse) in DM/ML/Viz.	Lower-order dominant.	Question blueprint: 20% L1-L2, 40% L3, 30% L4, 10% L5-L6 (Evaluate/Create).
Bibliography	Pressman'14, Elmasri'14, Goodrich'16, Murray'17, Wilke'19; NPTEL/Coursera.	Current as of 2018; ageing now.	Refresh with Spark 3, PyTorch, Transformers, MLOps, Cloud, DPDP Act 2023, Responsible AI.
Theory ↔ Industry Utility	Theory-heavy modules; labs exist but no live datasets/cloud.	Compare with TIOBE / NASSCOM / Stack Overflow skills index annually.	Map each concept → tool → industry use-case → measurable artifact (notebook, dashboard, repo).
Assessment (Progressive)	Internal 40 + ESE 60 (mostly summative).	Limited formative analytics.	CIA: 2 CATs(20)+Assign(10)+Lab rubric(10). ESE: 25% MCQ + 50% problem + 25% case. Lab rubric: Correctness40/Code20/Doc20/Viva20.
Digital Outcome Tracking	None specified.	Tools available free/community.	Sem-I: GitHub Classroom + HackerRank. Sem-II: Kaggle + MLflow + Jira. Sem-III: Databricks + Tableau Public + Jenkins. Centralise on Moodle/Canvas with auto CO-PO dashboard → AQAR.
Faculty Training	Not mandated in document.	Critical for NEP & OBE roll-out.	FDPs on OBE writing, Spark/Databricks/MLOps, GenAI & Responsible AI, rubric design, 2-week industry immersion/yr, AICTE-ATAL/SWAYAM certs.
Student Diversification	Electives + MOOC links only.	Scope to extend via UGC 2021 credit-transfer.	Mandate 2 SWAYAM/NPTEL certs/sem, 8-10wk internship, open-source contribution, hackathons (SIH/Kaggle), Data-for-Good capstone.
Policy Implementation	Single-cycle revision (2018).	No advisory board mentioned.	Curriculum-Industry Advisory Board (2-yr cycle); Outcome Coordinator per programme; annual Outcome Attainment Report; ≥40% blended-learning per UGC-2021.
Key Shortcomings	Missing: COs & CO-PO matrix; mandatory internship/dissertation; ethics & data-privacy; multidisciplinary & IKS; value-added/soft-skills (only 1 course).	Bibliography pre-2020 — no Spark 3, MLOps, Cloud, GenAI.	Assessment ESE-heavy & summative; no formative analytics; no CO/PO attainment computation methodology; no formal student/employer feedback loop.