Name: Krutheeka Baskaran
Research Advisor: Dr. Saji K Mathew
Research Area: Information Systems

SYLLABUS OF COURSES SELECTED FOR COMPREHENSIVE EXAMINATION

S. No	Course Code	Course Name	Grade Obtained
1	MS7080	Research Methodology in Business and Management	B
2	MS5260	Management Information Systems	A
3	MS7740	Research in IT and Organization	S
4	MS6880	Information Security and Privacy	S
5	MS6031	Data Analysis for Research	C

1. MS7080: Research Methodology in Business and Management

- What is Research? – What is knowledge? - Theory, knowledge and research

- Types of Research – Descriptive and Casual research – Conceptual and Experimental Research

- The Scientific Approach – Philosophy and the roots of science; what is science? – Scientific knowledge and the scientific method

- The Interpretive Approach – the emergence of alternative methods of knowing; interpretative research traditions; implications of interpretive research

- Theory and Hypotheses – What is a theory? Theory building vs. Theory testing, conceptualization and hypothesis testing.

- Research Design – Purpose of research design – the experimental approach – Cross-sectional designs; Longitudinal designs; case study designs and action research

- Qualitative and Quantitative research in Management: Social constructionism, Ethnography.

- Case study research, Narrative studies, Grounded theory, Surveys and Experiments.

2. MS5260: Management Information Systems

- Introduction, Information systems and their classification, IT architecture and infrastructure, IT, business and strategy

- Data management: Data Bases, Data Warehouses and beyond, Enterprise information systems for operational efficiency and automation, Introduction to e-commerce, e-business and beyond

- Software Development Life Cycle, Waterfall model, Agile approach, Spiral model, V-model, Shashimi model, Forms of conversion

- Competing on IT, DSS, & Business intelligence systems

3. MS7740: Research in IT and Organization

- Information Systems Discipline: The evolution of IS Discipline, Introduction of technology, Conceptualizing technology in IT, Theoretical foundations for the study of sociomateriality

- Technology and Organizations: Technology and institutions: What can research on Information Technology and research on organizations learn from each other?
- Methodological foundations: Nature of theory in IS, Conceptualization of causality, Information systems epistemology, Information system as a reference discipline; Information system as not a reference discipline (and what we can do about it)
- Design Science in IS Research, Diversity in design science research, Dimensions of Relevance, Why much IS research lacks relevance? Recommendation for IS researchers to attain relevance, Information systems and behavioral economics, Choice of sourcing mechanism for business process, Theoretical foundations, Common method bias.
- Selected themes in IS Research: IT and Strategy, Digital innovation and Ecosystems, Business Intelligence and Evolution: BI&A 1.0, BI&A 2.0, BI&A 3.0, Application and Future research, Social media and cloud, Cloud deployment models, Key stakeholders, Future Research directions in cloud computing, Digital ubiquity.

4. MS6880: Information Security and Privacy

- Foundations, cyber security, information security. Principles of information, security management, Confidentiality, Integrity, Availability and related concepts
- Security management, Governance, Risk and Compliance (GRC). Contingency planning, incidence response, disaster recovery and business continuity
- Understanding security policy, security behavior
- Risk management: Risk identification, threat modelling, strategies
- Cryptography and security. Regulatory landscape: Fair information practices, US regulatory frameworks. Cyber security and privacy in the Indian context, evolution and issues
- Regulatory landscape: EU's GDPR and its implications and other privacy and cyber security regulations
- Economics of privacy, privacy calculus and trade-offs, privacy paradox

5. MS6031: Data Analysis for Research
- Introduction to statistics and descriptive statistics – scatter plot, box plot, contingency table, histogram, measures of central tendency, measures of dispersion.
- Probability distribution – Uniform Distribution, Bernoulli Distribution, Binomial Distribution, Poisson Distribution, Geometric Distribution, Exponential Distribution, Negative Binomial Distribution, Normal Distribution and Binomial approximation.
- Central Limit Theorem.
- Inferential statistics – Confidence Interval, Population and Sample.
- Hypotheses testing – single sample z test, single sample t test, chi squared test of variance, proportion z test, two sample z test, two sample t test, paired t test, two sample proportion z test, chi squared test of independence.
- Type 1 and type 2 errors.
- Multi sample tests – ANOVA and Regression.