M – 5989

Reg. No. : ....

Name : ....

Second Semester M.A. Degree Examination, March 2022

Behavioural Economics and Data Science

BEDS 522 : FOUNDATIONS IN BEHAVIOURAL MACRO ECONOMICS

(2020 Admission)

Time : 3 Hours   Max. Marks : 75

SECTION – A

Answer **all** questions. **Each** question carries **1** mark.

1. Sensitivity analysis

2. DSGE

3. Animal spirits

4. Financial Market Friction

5. Real Business-Cycle theory (RBC theory)

6. NAIRU

7. Mainstream Macro Economics

8. 'Chaotic dynamics'

9. Positive demand shock

10. Heuristic Behaviour.

(10 × 1 = 10 Marks)

SECTION – B

Answer any **seven** questions in less than **400** words. **Each** question carries **5** marks.

11. What are the features of impulse response simulations.

12. Discuss why the output gap and inflation are serially correlated?

13. Bring out the criticisms against utility maximisation

14. Discuss the exogenous business cycle model underlying Dynamic Stochastic General Equilibrium model?

15. Distinguish between the concepts of adaptive expectations and rational expectations?

16. Discuss herd behaviour and market bubbles.

17. Discuss the assumption of a representative agent.

18. Bring out the importance of the search theory of unemployment?

19. "In the DSGE model without outside shocks nothing would happen" discuss.

20. Discuss some of the anomalies and deviations of rational expectations.

(7 × 5 = 35 Marks)

SECTION – C

Answer any **three** questions in less than **1200** words. Each question carries **10** marks.

21. How the distribution of the output gap is affected by different parameters. Explain this with different types of non-normality and Sensitivity analysis.

22. Discuss subject matter, of Dynamic Stochastic General Equilibrium model?

23. How exogenous shocks are transmitted into the macroeconomy.

24. What are the factors Affecting Serial Correlation in the Behavioural Macroeconomic Model?

25. Discuss extreme values of animal spirit under different parameters?

(3 × 10 = 30 Marks)

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Reg. No. : ....

Name : ....

Second Semester M.A. Degree Examination, March 2022

Behavioural Economics And Data Science

BEDS 523 – FOUNDATIONS OF DATA SCIENCE

(2020 Admission)

Time : 3 Hours   Max. Marks : 75

SECTION – A

Answer **all** questions from this section. Each question carries **1** mark.

1. What is Data Science useful for?

2. What is datafication in data science?

3. In which step of data reduction redundant attributes are detected.

4. ———————— works to remove the noise from the data that includes techniques like binning, clustering, and regression.

5. Clustering is an unsupervised learning method (True/false).

6. Which clustering technique needs the merging approach?

7. The final output of Hierarchical clustering is ————————

8. When does k-means clustering stop creating or optimizing clusters?

9. What can we predict from scatter plots?

10. What is the use of Histograms?

(10 × 1 = 10 Marks)

SECTION – B

Answer any **seven** questions. Each question carries **5** marks.

11. What is meant by fitting the model? Explain.

12. Explain is the main purpose of principal component analysis?

13. How do you do exploratory data analysis? Illustrate with an example.

14. What are the steps in the data science process? Explain any two.

15. How to Use ROC Curves for Classification.

16. What is linear regression used for? Explain with an example

17. With an example explain K nearest neighbor classifier.

18. Explain the concept of clustering tendency.

19. Explain in detail agglomerative clustering.

20. Explain the different methods used for visualization.

(7 × 5 = 35 Marks)

SECTION – C

Answer any **three** questions. Each question carries **10** marks.

21. Give a detailed account on Association Rule Mining Algorithm with suitable example.

22. Explain in detail the need of confusion matrix with an example.

23. Consider the following 5 transactions in a grocery store. Find all the items being frequently bought together. Extract all rules with confidence above 80% and support above 60% from the following data:

Customer	Items
1	{Q,W,E,R,T,Y}
2	{A,W,E,R,T,Y}
3	{Q,S,R,T}
4	{Q,P,D,R,Y}
5	{D,W,W,R,B,T}

24. Suppose we have 4 types of data objects and each has two attributes. Our goal is to group these objects into K=2 group of objects. Assume the initial centroids are objects O1 and O2.

DATA OBJECTS	ATTRIBUTE 1	ATTRIBUTE 2
O1	1	1
O2	2	1
O3	4	3
O4	5	4

25. What is the need of data visualization process? Which are the different tools used for visualization?

(3 × 10 = 30 Marks)

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Reg. No. : ....

Name : ....

Second Semester M.A. Degree Examination, March 2022

Behavioural Economics And Data Science

BEDS 524 : BASIC ECONOMETRICS AND RESEARCH METHODOLOGY

(2020 Admission)

Time : 3 Hours   Max. Marks : 75

PART – I

Answer **all** questions from this part. **Each** question carries **1** mark.

1. Coefficient of determination

2. Park test

3. Specification bias

4. Stationarity

5. Standard error

6. Type I error and Type II error

7. Piece-wise linear regression

8. White noise process

9. Level of significance

10. Homoscedasticity

(10 × 1 = 10 Marks)

PART – II

Answer any **seven** questions in less than **400** words. **Each** question carries **5** marks.

11. State the assumptions of Method of Least squares.

12. What are the important methods used for data collection?

13. Write a short note on ANOVA.

14. How to formulate a research problem?

15. Explain Durbin-Watson d statistic.

16. Explain Dummy variable trap.

17. Briefly explain ARMA and ARIMA process.

18. Explain the contents of a research proposal.

19. What are the important detection methods of Heteroscedasticity?

20. Distinguish between Theoretical Econometrics and Applied Econometrics.

(7 × 5 = 35 Marks)

PART – III

Answer any **three** questions in less than **1200** words. **Each** question carries **10** marks.

21. Briefly explain the Methodology of Econometrics.

22. Explain the stages involved in the Research Process.

23. Explain in detail of the problem of Multicollinearity, its consequences in the presence of OLS estimation and explain its detection and remedial measures.

24. State and prove the Gauss-Markov theorem.

25. What is a Dummy variable? Describe the procedure of Dummy dependent and Dummy independent variables.

(3 × 10 = 30 Marks)

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Reg. No. : ....

Name : ....

Third Semester M.A. Degree Examination, June 2022

Behavioural Economics and Data Science

BEDS 531 — APPLIED BEHAVIOURAL ECONOMICS

(2020 Admission)

Time : 3 Hours   Max. Marks : 75

I.   Explain the following in **one** or **two** sentences.

1.   "Warm-glow" model of public good contributions

2.   Welfare hedonism

3.   Mental accounting

4.   Diffusion of innovations

5.   Reciprocity

6.   Transformational leadership

7.   Sense of fairness

8.   Hyperbolic discounting

9.   Escalation of Commitment

10.   Heuristic

(10 × 1 = 10 Marks)

II. Answer any **seven** of the following, each not exceeding **400** words.

11. Explain the meaning and scope of behavioural economics on welfare and policy analysis.

12. Discuss the neoclassical perspective on addiction.

13. Explain immediate Barriers to education.

14. Highlight the damaging role of self-serving bias in evaluation with the help of examples.

15. The primary resistance to wage reduction comes from upper management, not from employees. Explain.

16. How good morale increases organizational citizenship behavior?

17. Explain Arrow's contribution on the health sector's institutions as a response to the special features of health care and health insurance.

18. How people make choices about physicians and the sources of information used to make judgments about the quality of a physician?

19. What are the variety of implications as the special properties of large organizations with many principals, agents, and hierarchies?

20. List the conditions in which managers are most likely to be affected in their judgment.

(7 × 5 = 35 Marks)

III. Answer any **three** questions. Each should not exceed **1200** words.

21. What are the testable implications of public good provision?

22. How default behavior implies the introduction of basic banking to rural areas could in and of itself have large impacts on behavior?

23. Examine popular models of wage rigidity.

24. Explain the model of physician behavior and notation of McGuire review of Physician Agency.

25. Organizational output will depend on how workers are sorted, how organizations "repair" mistakes, and whether worker mistakes can be exploited for the good of the firm. Discuss.

(3 × 10 = 30 Marks)

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Reg. No. : ....

Name : ....

Third Semester M.A. Degree Examination, June 2022

Behavioural Economics and Data Science

BEDS 532 : EXPERIMENTAL ECONOMICS : METHODS AND APPLICATION

(2020 Admission)

Time : 3 Hours   Max. Marks : 75

PART – 1

Define the following in **one or two** sentences. Answer **all** questions.

1. Treatment group

2. Randomization

3. Economic model

4. Hypothesis

5. Observational data

6. Field experiment

7. Transitivity

8. Rationality

9. Vickrey Auction

10. Nash equilibrium.

(10 × 1 = 10 Marks)

Answer **any seven** questions in not more than **400** words. Each question carries **5** marks.

11. What is meant by experimental research?

12. Differentiate between ex-ante and ex-post method.

13. Describe the limitations of field experiments.

14. Define and discuss internal validity.

15. Explain external validity.

16. Discuss the limitations of economic lab experiments.

17. What do you mean by an Economic theory?

18. What is the role of statistics in experimental economics?

19. Explain risk in economic terminology.

20. Define experimenter effect.

(7 × 5 = 35 Marks)

PART – 3

Answer **any three** questions in not more than **1,200** words. Each question carries **10** marks.

21. Why do we need treatment and control groups in randomized control trials? Elaborate.

22. What is design of experiments? Briefly discuss the steps involved in design of experiments.

23. Discuss the steps involved in setting up a controlled economic experiment in a laboratory.

24. Discuss the major criticisms against Experimental Economics.

25. What is hypothesis testing? Describe the steps involved in hypothesis testing with a suitable example.

(3 × 10 = 30 Marks)

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Reg. No. : ....

Name : ....

Third Semester M.A. Degree Examination, June 2022

Behavioural Economics and Data Science

BEDS 533 : GAME THEORY

(2020 Admission)

Time : 3 Hours   Max. Marks : 75

PART – I

Answer **all** questions in **one or two** sentence. Each question carries **1** mark.

1. Coalitional Game

2. Players

3. Auctions

4. Maxmin Strategy

5. Ultimatum Game

6. Pay off Matrix

7. Rational Choice

8. Cooperative game

9. Prisoners Dilemma

10. Strategy.

(10 × 1 = 10 Marks)

PART – II

Answer **any seven** questions. Each answer should not exceed **500** words.

11. Write a short essay on Symmetric game and Symmetric Equilibria.

12. Define Dominated Strategy and explain its different outcomes.

13. Briefly explain the main concepts related to game theory.

14. How far game theory made applicable in Bertrand's Model of duopoly?

15. Write a note on Strategic Moves.

16. Briefly explain about the concept of best response in game theory.

17. Write a short essay on the main advantages of rational choice theory.

18. Point out the main features of Sub game Perfect Nash Equilibrium.

19. Write briefly on backward induction.

20. Give some illustrations related with Extensive form games.

(7 × 5 = 35 Marks)

PART – III

Answer **any three** questions. Each answer should not exceed **1,200** words.

21. Define game theory and its main assumption and limitations.

22. Briefly explain Stakelberg model of duopoly markets.

23. Explain Nash Equilibrium concepts with examples.

24. Write an essay on War of Attrition in game theory.

25. Diagrammatically explain Cournot Model of duopoly.

(3 × 10 = 30 Marks)
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Reg. No. : ....

Name : ....

Fourth Semester M.A. Degree Examination, August 2022

Behavioural Economics and Data Science

BEDS 542 : BEHAVIOURAL ECONOMICS AND POLICY DESIGN

(2020 Admission)

Time : 3 Hours   Max. Marks : 75

PART – A

Answer **all** questions from this part. **Each** question carries **1** mark.

1.   Cognition

2.   Bounded rationality

3.   Norms

4.   Collective action

5.   Risk aversion

6.   Mental accounting

7.   Discounting

8.   Regulation

9.   Tax compliance

10. Social forces

(10 × 1 = 10 Marks)

PART – B

Answer **any seven** questions. **Each** question carries **5** marks.

11. What is rational choice?

12. Briefly discuss Policy design process.

13. Outline the characteristics of public policy.

14. Define Public policy.

15. What is attention in behavioral economics?

16. Define Nudge.

17. What is tax evasion?

18. Define decision quality.

19. Briefly explain Regulatory delivery.

20. What is the need of tax policy regulation?

(7 × 5 = 35 Marks)

PART – C

Answer **any three** questions. **Each** question carries **10** marks.

21. Using examples, explain how good policy design requires a synthesis of insights from economics and psychology.

22. Using, suitable examples, differentiate between social norms and market incentives.

23. Explain the determinants of Tax compliance.

24. Write an essay on Availability Bias

25. Explain the limitations of behavioural economics.

(3 × 10 = 30 Marks)

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M – 5988

Reg. No. : ....

Name : ....

Second Semester M.A. Degree Examination, March 2022

Behavioural Economics and Data Science

BEDS 521 : FOUNDATIONS IN BEHAVIOURAL MICRO ECONOMICS

(2020 Admission)

Time : 3 Hours   Max. Marks : 75

SECTION – A

Answer **all** questions. **Each** question carries **1** mark.

1.   Behavioural Economics

2.   Strategy

3.   Trial-and-error method

4.   Biases

5.   Altruism

6.   Information avoidance

7.   Hyperbolic discounting

8.   Heuristic method

9.   Nash equilibrium

10. Reciprocity

(10 × 1 = 10 Marks)

SECTION – B

Answer any **seven** questions in less than 400 words. **Each** question carries **5** marks.

11. What is Prospect theory?

12. Explain the term time preference

13. Discuss the issue of higher discount rate using cases of biased expenditure on alcohol, tobacco.

14. Explain the role of nudging using examples for improving the health system of Kerala.

15. What is intertemporal Choice?

16. How can we resolve the problem of interpersonal comparison in improving social happiness?

17. Bounded rationality.

18. Define 'prisoner's dilemma'. Discuss its applications in Indian Market situations.

19. Happiness economics

20. Explain the concept The belief-bias effect using appropriate examples.

(7 × 5 = 35 Marks)

SECTION – C

Answer any **three** questions in less than 1200 words. **Each** question carries **10** marks.

21. Discuss the characteristic features and nature social choice and traditional demand theories.

22. Examine the role of heuristics and biases in decision making. Discuss how far it distort the precision and accuracy in decisions?

23. What are the features of Discounted Utility Models?

24. Discuss the basic principles of Behavioural economics. Elucidate its history evolution scope and linkages with other disciplines.

25. Compare and contrast behavioural game theory with standard game theory.

(3 × 10 = 30 Marks)

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M – 5988