EC 21 CS

B.A. DEGREE EXAMINATION, APRIL/MAY 2018.

Second Semester

Economics

MICRO ECONOMICS – I

(2017-18 batch onwards)

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Give the meaning for 'comparative statics'.

2. Give the meaning for partial equilibrium.

3. State law of demand.

4. What does Engel curve show?

5. Name the three stages of law of variable proportions.

6. What is elasticity of factor substitution?

7. What is marginal cost?

8. What is the shape of long run average cost curve?

9. What is average revenue?

10. Give any two examples for fixed cost.

SECTION B — (5 × 5 = 25 marks)

Answer any FIVE questions.

11. Discuss the scope of micro economics.

12. Differentiate micro statics from micro dynamic.

13. List out the properties of indifference curve.

14. State the importance of consumer surplus.

15. Point out the internal economies of scale.

16. Briefly discuss the law diminishing return to scale.

17. Bring out various measures of cost.

18. What are the conditions of equilibrium of firm?

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

19. Analyse the role and limitations of price mechanisms in a free market economy.

20. Differentiate Hicks' substitution effect from Slutskey's substitution effect.

21. Examine producer's equilibrium using iso-quant approach.

22. Analyse the relationship between short run and long run average cost curves.

23. Examine the relationship between average, Marginal revenue and elasticity of demand.

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EC 21 CS

B.A. DEGREE EXAMINATION, APRIL/MAY 2019.

Second Semester

Economics

MICRO ECONOMICS – I

(2017 – 18 batch onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. Define micro economics.

2. Differentiate static and Dynamic.

3. What is law of demand?

4. Define cardinal approach.

5. What is supply?

6. Give the formula of production function.

7. What is marginal cost?

8. Define the nature of the cost curve.

9. What are revenues?

10. Draw the relation between AR and MR curve.

PART B — (5 × 5= 25 marks)

Answer any FIVE of the following.

11. Distinguish between total utility and marginal utility with illustration.

12. Give the assumptions of indifference curve analysis with a scale of preference.

13. Explain any two types of demand.

14. Give any five assumptions of consumers equilibrium.

15. What are the advantages of division of labour.

16. Diagrammatically explain the law of demand.

17. Explain substitution effect explained by Hick and slutsky.

18. Explain the Law of supply.

PART C — (3 × 10 = 30 marks)

Answer any THREE of the following.

19. Explain how a consumer maximises satisfaction to attain equilibrium.

20. Discuss the relationship between short run and long run average and total cost.

21. Explain Income Effect.

22. What are the factors influencing demand?

23. Explain the Law of Equi–marginal utility with illustration and its practical importance.

EC 21 CS

B.A. DEGREE EXAMINATION, SEPTEMBER 2020.

Second Semester

Economics

MICRO ECONOMICS — I

(From 2017–18 Batch Onwards)

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. Define micro economics.
2. What is partial equilibrium?
3. What is law of demand?
4. What is meant by ordinal approach?
5. What is production function?
6. What do you mean by elasticity of supply?
7. State the concept of marginal cost.
8. What do you mean by short-run?
9. What is average revenue?
10. State the equilibrium of firm.

SECTION B — (5 × 5 = 25 marks)

Answer any FIVE questions.

11. Explain the concept of equilibrium.
12. How does a consumer get equilibrium?
13. Write a short note on economies of scale?
14. Explain the relationship between average cost and marginal cost.
15. What are the importances of revenue curves?
16. Explain the role of price mechanism in the free market.
17. Describe the properties of indifference curve.
18. Give details about the concept of law of supply.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

19. Discuss the nature and scope of micro economics.
20. Explain the various types of elasticity of demand.
21. Describe the law of variable proportion.
22. Explain the various measures of costs.
23. Briefly explain the conditions of equilibrium of a firm.

EC 22 CS

B.A. DEGREE EXAMINATION, APRIL/MAY 2018.

Second Semester

Economics

MATHEMATICS FOR ECONOMISTS – I

(2017-18 batch onwards)

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is one to one function?
2. Give an example for composite function.
3. What is linear function?
4. Define Limit.
5. Give an example for two dimensional row vectors.
6. What is linear independence?
7. Give the meaning for determinant.
8. What is singular matrix?

9. Write an example for square matrix.

10. Give an example for 3 x 2 matrix.

SECTION B — (5 × 5 = 25 marks)

Answer any FIVE questions.

11. Distinguish rational from irrational numbers.

12. $A=\{1,2,3,4,5\}$, $B=\{3,4,5,6\}$, $C=\{0,1,8,9\}$

Find (a) $(A\cup B)-C$ (b) $(A\cup B)-C'$.

13. Briefly state value theorem.

14. Briefly solve vector additions within example.

15. State the properties of determinants.

16. Find the value of determinant. $\begin{bmatrix}3 & 4 & 7\\ 2 & 1 & 3\\ 7 & 2 & 1\end{bmatrix}$.

17. Obtain Inverse of matrix, $A=\begin{vmatrix}3 & 4\\ 1 & 2\end{vmatrix}$.

18. $A=\begin{bmatrix}2 & 3 & 4\\ 5 & 6 & 7\\ 4 & 7 & 6\end{bmatrix}$ and $B=\begin{bmatrix}1 & 2\\ 3 & 4\\ 5 & 6\end{bmatrix}$ find AB.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

19. Let $A=\{1,2,3,4\}$, $B=\{2,4,5,6\}$, $C=\{0,3,4,7,8\}$.

Find

(a) $(A\cup B)\cup C$,

(b) $(A\cap B)\cap C$,

(c) $A\cup(B\cap C)$,

(d) $A\cap(B\cap C)$.

20. Examine the Algebraic properties of limit.

21. Examine the lines and planes in R^2 and R^3.

22. $A=\begin{bmatrix}1 & 2\\ 3 & 4\end{bmatrix}$, $B=\begin{bmatrix}-1 & 2\\ 2 & -1\end{bmatrix}$ and $C=\begin{bmatrix}3\\ 1\end{bmatrix}$.

Compute (a) $2A-3B$, (b) ABC.

23. Obtain the inverse of matrix: $\begin{bmatrix}1 & 2 & 3\\ 1 & 3 & 3\\ 1 & 5 & 12\end{bmatrix}$.

22. Solve the following system of equations using Cramer's rule.

$$x_1 - 4x_2 - x_3 = 11$$
$$2x_1 - 5x_2 + 2x_3 = 39$$
$$-3x_1 + 2x_2 + x_3 = 1.$$

23. Establish that if A is the matrix

$$\begin{bmatrix} b+c & a^2 & a \\ c+a & b^2 & b \\ a+b & c^2 & c \end{bmatrix}$$ then

$$|A| = -(a-b)(b-c)(c-a)(a+b+c).$$

EC 22 CS

B.A. DEGREE EXAMINATION, NOVEMBER 2018.

Second Semester

Economics

MATHEMATICS FOR ECONOMISTS — I

(2017–18 batch onwards)

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer the following.

1. If $A = \begin{bmatrix} 7 & 4 \\ 6 & 2 \\ 1 & 8 \end{bmatrix}$, $B = \begin{bmatrix} -3 & 9 & 1 \\ 2 & 12 & 7 \end{bmatrix}$ Find AB.

2. Define rank of a matrix.

3. What are vectors?

4. Find the determinant of the following matrix $\begin{bmatrix} 9 & 13 \\ 15 & 18 \end{bmatrix}$.

5. What is meant by singular matrix?

6. What are the algebraic properties of limits?

7. Find the determinant of the matrix $A = \begin{bmatrix} 1 & -3 & -4 \\ 2 & 1 & 0 \\ 3 & -2 & 5 \end{bmatrix}$.

8. Mention the value theorem.

9. Using vectors, find the value of k such that the points $(k, -10, 3)$, $(1, -1, 3)$ and $(3, 5, 3)$ are collinear.

10. Using vectors find the area of the triangle ABC with vertices $A(1, 2, 3)$, $B(2, -1, 4)$ and $C(4, 5, -1)$.

SECTION B — ($5 \times 5 = 25$ marks)

Answer any FIVE questions.

11. What are the elements of logic and proof?

12. Determine which of the following set of vectors are linearly independent?

$$\begin{bmatrix} 1 & 1 & -1 & 2 \\ 2 & 3 & -4 & 3 \\ 2 & -2 & -7 & 8 \end{bmatrix}.$$

13. State and prove any two properties of determinants.

14. If $A = \begin{bmatrix} -1 & 5 & -1 \\ -1 & 1 & 3 \\ 3 & 2 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 3 & 0 & 2 \\ -1 & 1 & 0 \\ 5 & 2 & 3 \end{bmatrix}$.

Show that $(AB)^T = B^T A^T$.

15. Write a note on inequalities.

16. Prove whether there is bijection between R and $(0, 1)$.

17. Find the inverse of the matrix $\begin{bmatrix} 1 & 0 & 1 \\ -1 & 1 & 1 \\ 0 & 1 & 0 \end{bmatrix}$.

18. Find out the eigen values of the matrix $\begin{bmatrix} 4 & 5 \\ 2 & 1 \end{bmatrix}$.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

19. What are the types of functions?

20. Explain intermediate value theorem.

21. Find the inverse of $A = \begin{bmatrix} 4 & 1 & -5 \\ -2 & 3 & 1 \\ 3 & -1 & 4 \end{bmatrix}$.

[redacted]

UG DEGREE EXAMINATION, APRIL/MAY 2019

[redacted]

Economics

MATHEMATICS FOR ECONOMISTS – I

(2017 – 18 batch onwards)

Time : Three hours [redacted] Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. Define set.

2. What do you mean by matrix?

3. Write the concept of a function.

4. Define Limit.

5. Write the definition for continuity of a function.

6. Find the minors and cofactors of all the elements of $\begin{bmatrix} 3 & 2 \\ 5 & 0 \end{bmatrix}$.

7. Write the meaning for Adjoint matrix.

8. Find the inverse of $\begin{bmatrix} a & b \\ c & d \end{bmatrix}$.

9. If $A = \begin{bmatrix} 2 & 3 \\ 10 & 15 \end{bmatrix}$ and $B = \begin{bmatrix} 4 & 7 \\ 8 & 24 \end{bmatrix}$

Find $A + B$, $2A + 3A$.

10. Find the Rank of $\begin{bmatrix} 1 & 2 & 3 \\ 2 & 4 & 5 \\ 3 & 5 & 6 \end{bmatrix}$.

SECTION B — (5 × 5 = 25 marks)

Answer any FIVE questions

11. Explain types of functions

12. Describe the relationship's between limits and continuity.

13. Explain Algebraic properties of limits.

14. Give an account on types of sets.

15. If $A = \{1, 3, 4, 5\}$ and $B = \{1, 7, 8, 10\}$ Find $A \cup B$ and $A \cap B$.

16. Write a note on importance of matrix.

17. Differentiate between matrices and determinants.

18. If $A = \begin{bmatrix} 2 & 0 & -1 \\ 2 & 4 & -1 \\ 1 & -8 & -3 \end{bmatrix}$ Show that $A\ (AdjA) = |A|\ I_3$

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

19. Discuss set operations with examples.

20. Describe the properties of sets.

21. Explain matrix operations with examples.

22. Solve the following system of simultaneous equation by Cramer's Rule.

$2x + 3y + 3z = 22$

$x - y + z = 4$

$4x + 2y - z = 9$

23. Using matrix inversion method, solve the following system of equation.

$2x - y + 3z = 1$

$x + y + z = 2$

$x - y + z = 4$

22. Explain the properties of determinants with suitable examples.

23. Solve : $3x+2y=13$
$2x+3y=12.$

EC 22 CS

B.A. DEGREE EXAMINATION, SEPTEMBER 2020.

Second Semester

Economics

MATHEMATICS FOR ECONOMISTS

(From 2017–18 Batch Onwards)

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. If x and y are real numbers. State whether the following is True or False :

   (a) If $x<y$ then $x^2<y^2$

   (b) If $x>0$ then $x^2>y^2$.

2. Write a note on dependent and independent variable.

3. Solve 18^2-9^2.

4. What is a Cartesian product?

5. In a city, 200 families are selected, 120 families read the Hindu, 100 families read Times of India and 65 families read both the paper. Find how many families read at least one newspaper.

6. Solve : $3x-5=20$.

7. What is a vector?

8. State the characteristics of orthogonal matrix.

9. Let A be $\begin{bmatrix} -1 & 2 & 5 \\ 2 & -4 & 2 \\ 1 & 2 & 7 \end{bmatrix}$ find $\rho(A)$.

10. State Crammers Rule.

SECTION B — (5 × 5 = 25 marks)

Answer any FIVE questions.

11. Find the distance between the two points (1, 4) and (4, 8).

12. Find the slope of the curve $2x=-4y+5$.

13. Explain Ordered Pairs with examples.

14. Describe the algebraic properties of limits.

15. Prove $\begin{bmatrix} a-b-c & 2a & 2a \\ 2b & b-c-a & 2b \\ 2c & 2c & c-a-b \end{bmatrix} = (a+b+c)^3$.

16. Obtain the inverse of $A = \begin{bmatrix} 0 & 1 & 2 \\ 1 & 2 & 3 \\ 3 & 1 & 1 \end{bmatrix}$

17. Explain the properties of Matrix.

18. State and explain Value theorem.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

19. Elaborate the various types of functions.

20. A is a 3 × 3 non-singular matrix, such that $AA^{-1}=A^{-1}A$ and $B=A^{-1}A^T$, then prove $BB^T=I_3$.

21. Find A^{-1} if $A=\begin{bmatrix} 0 & 1 & 1 \\ 1 & 0 & 1 \\ 1 & 1 & 0 \end{bmatrix}$. Show that $A^{-1}=A^2-3I/2$.

ECA 21 CS

B.A. DEGREE EXAMINATION, APRIL/MAY 2018.

Second Semester

Economics

ENVIRONMENTAL ECONOMICS

(2017-18 batch onwards)

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. What does environmental economics deal with?
2. Give the meaning for externality.
3. What is public good?
4. What is a Luxury?
5. Give the meaning for global warming.
6. State the green house effect.
7. Name any two environmental laws in India.

8. Bring out the meaning for environmental accounting.

9. What is CPCB?

10. Give the meaning for environmental policy design.

SECTION B — (5 × 5 = 25 marks)

Answer any FIVE questions.

11. How is market system related with environment?

12. Bring out the link between welfare and environment.

13. Discuss Environment - Economy linkage.

14. How is population linked to environment?

15. Put forth measures to control air pollution.

16. List out the reasons for sound pollution.

17. List out the indicator of sustainable development.

18. Bring out the functions of pollution control board.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

19. Examine the nature and significance of environmental economics.

20. Critically evaluate the methods of valuing environmental damage.

21. Analyse the impact of energy use on environmental problems.

22. Explain the choice of instruments in pollution control in developing countries

23. Critically examine Indian environmental policy and performance.

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ECA 21 CS

B.A. DEGREE EXAMINATION, NOVEMBER 2018.

Second Semester

Economics

ENVIRONMENTAL ECONOMICS

(2017-18 Batch onwards)

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer the following.

1. Which are the renewable natural resources?

2. What does environmental policy deal with?

3. Distinguish between use and non use value.

4. What does 'Zero Pollution' represent?

5. Define marginal willingness to pay for clean air.

6. What does the compensated demand curve measure?

7. What is the effect of climate on land values?

8. What is the implication of environmental Kuznet curve?

9. Mention two predictions of the 'Limits to Growth' theory.

10. State few 'Economy wide effects of Environmental Regulation'.

SECTION B — (5 × 5 = 25 marks)

Answer any FIVE of the following.

11. Why is environment considered as a public good?

12. Write notes on 'Global Warming'

13. Explain the welfare criteria which includes 'Environment'.

14. Analyze population and environment linkage.

15. Discuss urbanization as the major cause of environmental degradation.

16. What are the health issues connected to environmental damage?

17. How is environmental accounting done in our country?

18. What are the functions of pollution control boards?

SECTION C — (3 × 10 = 30 marks)

Answer any THREE of the following.

19. Explain the trade-off between economic development and environmental degradation.

20. What are the government policies to improve environment?

21. What are the indicators of sustainable development?

22. Explain the causes and consequences of various types of pollution.

23. How are environmental damage valued?

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ECA 21 CS

B.A. DEGREE EXAMINATION, SEPTEMBER 2020.

Second Semester

Economics

ENVIRONMENTAL ECONOMICS

(From 2017–18 Batch Onwards)

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Give two economic functions of the environment.

2. What do you mean by sustainable development?

3. What is the meaning of externalities?

4. What is Marginal Social Cost?

5. What do you mean by Environmental Pollution?

6. What are the classifications of Water Pollution?

7. What are the factors influence environmental impact?

8. What do you mean by Mass Production System?

9. Define Zero Pollution.

10. What is horizontal equity?

SECTION B — (5 × 5 = 25 marks)

Answer any FIVE questions.

11. What do you understand by consumer surplus?

12. Elucidate the solutions to Externalities.

13. Examine Environmental quality as a public good.

14. Enumerate the sources and composition of Air Pollutants.

15. Delineate the effects of Deforestation.

16. Discuss population and environmental quality.

17. Spell out the rules of sustainable development.

18. Justify, how to use of Refundable Deposits for pollution control.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions

19. "Welfare economics is essential for a better understanding of economics of environmental issues" – Discuss.

20. Examine the effects of population growth on environment.

21. Describe the theories of Natural Resource use.

22. Discuss the quality of Urban Environment in India.

23. Critically examine India's Environmental Policy.

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ES 101 CS

U.G. DEGREE EXAMINATION, APRIL/MAY 2018.

Second Semester

ENVIRONMENTAL STUDIES

(Common for All branches of under Graduate Courses)

(2017-18 Batch onwards)

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What are the effects of over-exploitation?

2. List any two functions of desert ecosystem.

3. What is an ecological succession?

4. What is meant by energy flow in an ecosystem?

5. What are the effects of dam construction on biodiversity?

6. What is biological invasion?

7. What is species diversity?

8. What are the effects of alien species?

9. Why does genetic diversity important?

10. What is in situ conservation?

SECTION B — (5 × 5 = 25 marks)

Answer any FIVE questions.

11. What are the effects of marine pollution?

12. What is the role of public in environmental conservation?

13. Compare and contrast Renewable and Non-renewable energy?

14. What are the impacts of acid rain?

15. Give a short note on IUCN Red categories.

16. How does habitat loss affect the biodiversity?

17. What is global warming? And how it leads to climate change?

18. Write a short note on environmental ethics.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

19. Write an essay on food problems in different countries.

20. What are the structure and functions of Aquatic ecosystem?

21. Write an essay on Chipko movement.

22. What are the causes, effects and control measures of noise and thermal pollutions?

23. What is the role of information technology in environment and human health?
