K17P 1184

Reg. No. : .....

Name : .....

Third Semester M.A. Degree (Supplementary) Examination, November 2017
(2013 & Earlier Admissions)
Economics
Optional – 07 : MATHEMATICAL ECONOMICS

Time : 3 Hours Max. Marks : 80

Instructions : *1) Part **A** : Answer **all** questions. **Each** question carries **one** mark.*
*2) Part **B** : Answer **any 8** questions. **Each** question carries **3** marks.*
*3) Part **C** : Answer **any 4** questions. **Each** question carries **5** marks.*
*4) Part **D** : Answer **any 2** questions. **Each** question carries **13** marks.*

PART – A

1. The point where maximum strategy of firm A equals minimax strategy of firm B is called
   a) pay off
   b) saddle point
   c) presoner's dilemma
   d) dominant strategy

2. _____ equilibrium is an example of nash equilibrium.
   a) Cournot b) Stackleberg c) Edgeworth d) Bertrand

3. Demand functions are homogenous of degree _____ in prices and income.
   a) one b) two c) zero d) none of these

4. Cross price elasticities will be positive for _____ goods.
   a) normal b) luxury c) substitute d) complement

5. The seller's total revenue increases, as price increases only if demand is
   a) elastic b) inelastic c) unit elastic d) none of these

6. For the firm with monopoly power,
   a) $P = MC$
   b) $P < MC$
   c) $P > MC$
   d) P = elasticity of demand

7. $MRTS_{L,K}$ equals
   a) $\frac{\partial L}{\partial K}$ b) $\frac{-\partial L}{\partial K}$ c) $\frac{\partial K}{\partial L}$ d) $\frac{-\partial K}{\partial L}$

P.T.O.

8. In CES production function, elasticity of substitution varies from _____ to _____
   a) 0 to 1 b) 0 to α c) $-\alpha$ to α d) -1 to 1
9. _____ shows the relationship between a firm's profit maximizing output and the amount it thinks its competitor will produce.
   a) ISO profit line b) Envelope curve
   c) Reaction curve d) Isoquant
10. The strategy of minimizing the maximum gain is called
    a) minimax strategy b) maximum strategy
    c) pure strategy d) mixed strategy **(1×10=10)**

PART – B

11. Explain the budget constraint of the consumer.
12. What is consumer's equilibrium ?
13. Explain input-output isoquant.
14. Define product line.
15. Distinguish between pure and mixed strategy.
16. Derive marginal cost from total cost – $TC = 50 + 6x + 2x^2$.
17. Explain cross price elasticity of demand.
18. Explain elasticity of substitution.
19. Explain pay off matrix.
20. What is homogenous production function ?
21. Briefly explain properties of indifference curves. **(3×8=24)**

PART – C

22. Explain indirect utility function.
23. Explain two person zero sum game.
24. Explain constant elasticity demand function.
25. Mathematically show the relation between price elasticity of demand and marginal revenue under monopoly.
26. Explain linear expenditure system.
27. Explain homothetic preferences. **(5×4=20)**

PART – D

28. Mathematically derive Cournot's equilibrium.
29. State and prove properties of Cobb-Douglas production function.
30. Explain the graphical method of linear programming and its limitations.
31. Explain the direct and cross effects in the Slutsky equation. **(2×13=26)**
