

B.A. (Honours) Examination, 2015

Semester – IV

Economics

Paper : H-8

(Mathematical Economics-I)

Time: 3 Hours

Full Marks: 40

Questions are of value as indicated in the margin.

Answer **any four** questions.

1. (a) Explain Walrasian and Marshallian stability condition with the help of demand-supply curve.
(b) Give an example of equilibrium which is stable according to Marshallian condition but not with Walrasian condition.
(c) Find the point elasticity of demand for the demand function $q=100P^{-2}$; where q =Quantity demanded and P =Price. 3+4+3
2. (a) In the general IS-LM model, what are the comparative-static effects of a change in money supply?
(b) Prove that facing the same budget line the original utility function $U=f(x,y)$ and its monotonic transformation $V=g(f(x,y))$ will have same equilibrium value of x and y . 5+5
3. Show that diminishing marginal utility is neither necessary nor sufficient condition for regular strictly quasi-concavity of the utility function or convexity of indifference curve. 10
4. Derive and interpret the Slutsky equations for a consumer with utility function $U=xy$. 10
5. (a) Define concavity and quasi-concavity of a function.
(b) Show that quasi-concavity is weaker condition than concavity.
(c) Show that $Z=xy; (x,y \geq 0)$ is not quasi-concave. 2+4+4
6. A consumer has the utility function $U=X^2Y^2$, and the budget constraint $M=P_xX+P_yY$.
(a) Set up the constrained maximization problem and derive first-order conditions.
(b) Derive the consumer's demand for X and Y in terms of the parameters.
(c) Derive the indirect utility function for the consumer. 3+4+3
7. (a) Show that CES production function has a constant elasticity of substitution.
(b) Prove that for Cobb-Douglas production function isoquants are negatively sloped and convex to the origin. 4+6

P.T.O.

(2)

8. (a) What will be the shape of Expansion paths in case of CES production function?
- (b) What is difference between Pure Strategy and Mixed Strategy?
- (c) Find the equilibrium of the following game

		Player B	
		B_1	B_2
Player A	A_1	1	-1
	A_2	-1	1

4+2+4
