



PUNJAB PUBLIC SERVICE COMMISSION

**COMBINED COMPETITIVE EXAMINATION
FOR RECRUITMENT TO THE POSTS OF
PROVINCIAL MANAGEMENT SERVICE -2020**

SUBJECT: ECONOMICS (PAPER-I)

TIME ALLOWED: THREE HOURS

MAXIMUM MARKS: 100

NOTE:

- All the parts (if any) of each Question must be attempted at one place instead of at different places.
- Write Q. No. in the Answer Book in accordance with Q. No. in the Q. Paper.
- No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
- Extra attempt of any question or any part of the question will not be considered.

Attempt any six questions in all. FOUR from PART-I and TWO from PART-II. Calculator is allowed (Not programmable). Attempt in Urdu or English.

PART-I

- Q.No.1** a) Explain the market equilibrium with the help of diagram. How changes in income affect the market price and quantity.
b) How can floods affect the supply of agricultural products and what will be resultant effect on market equilibrium. Explain with the help of diagram. **(10+6=16)**
- Q.No.2** a) Differentiate between cardinal and ordinal utility. Which of the two approaches is better in analyzing the consumer behavior?
b) Explain the slope of indifference curves (IC). Is indifference curve always convex? If no, what possible shapes IC can take? **(6+10=16)**
- Q.No.3** a) Derive and explain the optimal of a consumer with the help of indifference curve and budget constraint.
b) How price effect can be decomposed into substitution effect and income effect for normal and inferior goods. Analyze with the help of diagrams. **(6+10=16)**
- Q.No.4** a) Explain the concept of production function. How short-run production function can be differentiated from long-run production function?
b) What is the difference between average product and marginal product of labor? Does behavior of average and marginal product curves show different stages of production? Discuss. **(6+10=16)**
- Q.No.5** a) Explain the short-run and long-run profit maximization conditions of a firm under perfect competition.
b) What are possible shapes of industry's long-run supply curve and what conditions determine these shapes. **(10+6=16)**
- Q.No.6** What is monopoly? What determines monopoly power? Derive the shapes of demand curve under monopoly. What are social costs of monopoly in comparison to perfect competition? **(16)**
- Q.No.7** a) Explain firm's demand and supply curve for an input under perfect competition and monopsony with the help of relevant diagrams.
b) How equilibrium is determined in each case. **(10+6=16)**

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PART-II

(Attempt any two questions)

Q.No.8 a) Explain the necessary and sufficient conditions for maximization and minimization of a function. **(6)**

b) Given the total cost function $TC = Q^3 - 5Q^2 + 12Q + 75$ and the demand function $Q=100-P$,

- Formulate the total profit function **(2)**
- Find the profit maximizing level of output by applying the necessary and sufficient condition for maximization. **(8)**
- What is the maximum profit? **(2)**

(6+12=18)

Q.No.9 a) What are different types of equations? How can equations be differentiated from identities?

b) Given the following demand and supply functions:

$$P = 10 - \frac{2}{3}Q \qquad P = 1 + \frac{1}{3}Q$$

Calculate equilibrium price and quantity. What is elasticity of demand and supply at equilibrium? If government imposes a unit tax of Rs. 3, what will be the effect on equilibrium price and quantity? **(6+12=18)**

Q.No.10 a) Differentiate between slope and elasticity with the help of example.

b) Given:

$$Y = C + I_0 + G_0, C = 100 + 0.8Y_d, I_0 = 30, G_0 = 50, T = 15 + 0.25Y$$

Find the equilibrium level of National Income and Consumption.

c) Optimize the objective function $Z = 8x^2y^2$ subject to $4x + 2y = 12$ using the Lagrange Multiplier. Use bordered Hessian determinant for the 2nd order condition. **(4+6+8=18)**