

UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester - Spring 2022

Paper: Mathematical Economics II Course Code: ECON-308 Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions. (6x5=30)

- I. Define higher order difference equations.
- Solve Bernoulli equation: $\frac{dy}{dt} + \frac{1}{2}y = \frac{1}{2}(t+1)y^3$ Find the general solution: $\frac{dy}{dt} + 3ty = 0$ II.
- III.
- Find the roots of the characteristic equation: $2x^2 + x + 10 = 0$ IV.
- Explain difference between imaginary and complex numbers V.
- If $MC = 250 + 30Q 9Q^2$ and FC = 66 find total cost function. VI.

Answer the following questions.

(3x10=30)

- $t^2 dy + 3y dt = 0$ Q. 2. Solve by using 4-step procedure:
- Q. 3. Solve the cobweb model: $Q_{d,t} = 20 6P_t$ and $Q_{s,t} = -5 + 6P_{t-1}$
- Q. 4. Solve the model: $X_{t+1} + \frac{1}{2}y_{t+1} \frac{1}{7}y_t = 2$, using Schur Theorem.