Bachelor of Arts Examination, 2019
UG (Second Year, Fourth Semester)
Economics (Honours)
Linear Programming and Input-Output Analysis

SKILL ENHANCEMENT COURSE 2 (SE 2)

Total Marks: 30   **Time: 2 hours**

Answer any three:

1. Consider a hypothetical closed economy with three sectors; Agricultural sector (A), Manufacturing sector (M) and Service sector (S). All three sectors use three primary inputs, labour (L), capital (K) and land (La) and intermediate inputs. Wage (W) is the factor incomes to labour. Capital owners earn interest income (R) and land owners earn rent (Ro). The input-output of the economy is given below,

All the figures are in Rs. Millions

Sectors	Agriculture	Manufacturing	Service	Consumption	Investment	Government Expenditure
Agriculture	75	82	18	100	120	70
Manufacturing	65	72	126	225	105	150
Service	35	109	146	25	45	750
Wage income	130	250	700			
Interest income	120	100	75			
Rent income	40	130	45			

a. Calculate wage share of the agricultural sector.

b. Which is the most capital intensive sector and why?

c. Discuss the wage share difference between service sector and manufacturing sector.

d. Calculate National Income using expenditure method.

e. Prove the national income accounting following product method, expenditure method and income method.   **1+2+2+2+3= 10**

2. There are two sectors in the economy, sector 1 and sector 2. Both use its own output, output from other sector and labour for production. Each sector faces a positive final demand. For this economy, describe the quantity system and the price system. Show that the price system is the dual problem of the output system. Prove that the optimal value of objective function under quantity system is same as that of under price system.**3+3+4 =10**

3. Discuss Walras-Cassel model of general equilibrium. Explain the application of LPP to establish the existence of a unique economically viable solution of the model. **4+6 =10**

4. Write the short note on any two: **5+5 =10**
    a. Closed input-output model
    b. World production possibility frontier
    c. Substitution possibility in Leontief Model of input-output

5. Describe SAM for a small open economy with six accounts; Factors, Households, Productive activities, Government, Rest of the World and Capital account. Why SAM is called a double-entry table?   **7+3 = 10**