Date of Examination: _____ Session (FN/AN): _ Duration: <u>2 hrs</u> Full Marks: <u>30</u>
Subject No.: <u>HS31201</u>   Subject: <u>PUBLIC FINANCE</u>
Department/Center/School: HUMANITIES & SOCIAL SCIENCES
Specific charts, graph paper, log book etc., required: <u>None</u>
Special Instructions (if any): <u>None</u>

Section 1 (answer any 5) (3×5)

1. What are the types of efficiencies to ensure Pareto Optimality?
2. Argue, with example, about government intervention in the presence of externalities.
3. How does ordinary and compensated demand curves differ from each other? Discuss intuitively with a graphical illustration.
4. Compare Utilitarian and Rawlsian philosophies of welfare?
5. What are merit goods? Discuss with an example.
6. Suppose the Government has gathered the following information about two individuals regarding their willingness to pay for a public good. $D1=400-x$ depicts the maximum willingness-to-pay function for individual 1 and $D2=100-2x$ for individual 2 (where x is the quantity of the public good). What will be the optimal quantity of the public good to be provided if the marginal cost of producing the public good is 350/150/500?

Section 2 (answer all)

1. State five sources of market failure with an example for each.   (5)
2. Consider a chemical manufacturing firm. The demand function that it faces is given by $P=90-Q$ where Q is in million tons per year. The marginal cost function is given by $MPC=10+Q$. The firm emits 1 unit of pollutant per ton of chemical produced. However, if the output is up to 10 million tons a year, there is no external cost. Over 10 million tons a year, the marginal external cost is positive. Government imposes an emission fee (per ton of output) to ensure efficient production of the chemical. Find out emission fee, Government's total earning from the emission fee and the dead-weight loss in absence of emission fee.   (3)
3. Consider the example of a two person two goods exchange economy.
$$u_1 = x_{11} \cdot x_{12}; \quad \omega_1 = (1,0)$$
$$u_2 = 2x_{21} + x_{22}; \quad \omega_2 = (0,1)$$
What will be the Walrasian equilibrium allocations and relative price? Now, the planner wants to implement transfers (T1,T2) such that an equilibrium endowment (0.25, 0.5); (0.75, 0.5) can be achieved. What will be the values of (T1, T2)? $(3 + 2)$
4. Discuss very briefly any two methods of rationing publicly provided goods.   (2)