

BACHELOR OF ARTS EXAMINATION, 2019

(1st Year, 2nd Semester, Old)

ECONOMICS (HONOURS)

STATISTICS II

(2016 SYLLABUS)

Time : Two hours

Full Marks : 30

Answer any five of the following questions.

6 × 5 = 30

1. In a single day Raju, the barber, collects Rs. 500 from haircuts; over this day his equipment depreciates in value by Rs. 50. Of the remaining Rs. 450, Raju pays sales tax worth Rs. 30, takes home Rs. 200 and retains Rs. 220 for business improvement and buying new equipment. He further pays Rs. 20 as income tax from his income. Based on this information, compute Raju's contribution to the following measures of income (a) Gross Domestic Product (b) NNP at market price (c) NNP at factor cost (d) Personal Income and (e) Personal Disposable Income.
2. Suppose the GDP at market price of a country in a particular year was Rs. 1,100 crores. Net factor income from abroad was Rs. 100 crores. The value of (indirect taxes - subsidies) was Rs. 150 crores and National Income was Rs. 850 crores. Calculate the aggregate value of annual depreciation in this economy.
3. What is transaction demand for money? How is it related to the value of transactions over a specified period of time?
4. Discuss with examples how money can overcome the limitations of a barter system.
5. The initial equilibrium levels of autonomous expenditure and marginal propensity to save in an economy were 50 and 0.4 respectively. There was a simultaneous increase in autonomous expenditure to 60 and a reduction in marginal propensity to save to 0.2. Describe the multiplier process.
6. Suppose the initial levels of autonomous expenditure and marginal propensity to consume are 50 and 0.8, respectively, and the equilibrium level of income is 250. What would happen if the marginal propensity to consume were to increase to a new level of 1.2?
7. Let $C = 70 + 0.7Y_D$, where Y_D is the disposable income, $I = 90$, $G = 100$ and $T = 0.10Y$, where Y is income and T is total tax revenue.
 - (a) What is equilibrium level of tax revenue?
 - (b) Does the government have a balanced budget?
8. Suppose the taxes on income are lump sum in nature. Explain why the balanced budget multiplier has a value equal to unity.

[Turn over

3. (a) What are the advantages of sampling over complete enumeration?

(b) x_1, x_2, \dots, x_n are a random sample from a Normal distribution with unknown mean (μ) and known variance (σ^2). What is the MLE of μ ? 5+5

4. (a) A sample of 400 male students is found to have a mean height of 171.38 cms. Can it be reasonably regarded as a sample from a large population with mean 172 cm and sd 3 cms?

(b) A six faced die was thrown 300 times and the number of points obtained at each throw was recorded. In this way, the following frequency distribution was formed. Use this data to test whether the die was unbiased.

No. of points per throw	1	2	3	4	5	6
frequency	31	52	46	40	54	77

5+5