

U.G. 4th Semester Examination - 2022**STATISTICS****[HONOURS]****Course Code : STAT-H-CC-T-8****(Survey Sampling and Indian Official Statistics)**

Full Marks : 50(40+10)

Time : $2\frac{1}{2}$ Hours*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.**Notations and symbols have their usual meaning.*

1. Answer any **five** questions: $2 \times 5 = 10$
- a) Define sampling unit with an example.
 - b) Write two advantages of sampling method.
 - c) What is non-probability sampling? Give an example.
 - d) Write down two disadvantages of systematic sampling method.
 - e) What is cluster sampling?

- f) What is the aim of National Statistical Commission?
 - g) What are the main uses of official statistics?
2. Answer any **two** questions: $5 \times 2 = 10$
- a) Explain simple random sampling with replacement.
 - b) Briefly discuss stratified random sampling.
 - c) Write a short note on ratio methods of estimation.
 - d) Write down five main activities of Ministry of Statistics and Program Implementation (MoSPI).
3. Answer any **two** questions: $10 \times 2 = 20$
- a) Write principal steps in a sample survey.
 - b) Derive an estimate of population mean and its variance under simple random sampling without replacement. $5+5$
 - c) Find the optimal allocation under proportional allocation in stratified random sampling. Hence compare the efficiencies between stratified random sampling and simple random sampling without replacement. $5+5$

- d) i) Briefly discuss the role of Central Statistical Office.
- ii) Write a short note on National Sample Survey Office. 5+5

[Internal Assessment: 10]
