



# GL BAJAJ

Institute of Management & Research

Approved by A.I.C.T.E., Ministry of HRD, Govt. of India

Roll No.....

Plot No. 2, Knowledge Park-III, Greater Noida (U.P.) – 201306

**POST GRADUATE DIPLOMA IN MANAGEMENT (2018-20)**  
**MID TERM EXAMINATIONS (TERM - V)**

Subject Name: **VAC - Business Analytics**

Time: **01.30 hrs**

Sub. Code: **VAC-IV**

Max Marks: **20**

**Note:**

- 1. Writing anything except Roll Number on question paper will be deemed as an act of indulging in unfair means and action shall be taken as per rules.**
- 2. All questions are compulsory in Section A, B & C. Section A carries 1 Case Study of 8 marks. Section B carries 3 questions of 2 marks each and Section C carries 2 questions of 3 marks each.**

**SECTION - A**

**04+04 = 08 Marks**

**Q. 1: Case Study:** Suppose that the makers of Eveready batteries want to demonstrate that their size AA battery lasts an average of at least 45 minutes longer than Eveready's main competitor, the Energizer. Two independent random samples of 100 batteries of each kind are selected, and the batteries are run continuously until they are no longer operational. The sample average life of Eveready is found to be 308 minutes. The result for Energizer batteries is 254 minutes. Assume  $\sigma_1 = 84$  minutes and  $\sigma_2 = 67$  minutes.

- Frame the Null and Alternate Hypothesis
- Apply the appropriate hypothesis test and interpret the results

**SECTION - B**

**02×03 = 06 Marks**

**Q. 2:** What is experiment and conditional probability?

**Q. 3:** What is random variable? Mention at least two?

**Q. 4:** List down sampling techniques?

**SECTION - C**

**03×02 = 06 Marks**

**Q. 5:** State central limit theorem with diagram illustration?

**Q. 6:** State the four properties of estimators?