 Voc(Sem-IV) — BCA
(GE – 4) Stat – II

2024

Time : 3 hours

Full Marks : 70

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer from **all** *the Groups as directed.*

Group – A
(Objective Type Questions)
(Compulsory)

1. Choose the correct answer of the following : 2×10 = 20

   (a) The null hypothesis is denoted by :

   (i) H_0 (ii) H_1

   (iii) H (iv) H_2

   (b) The variance of χ^2 with n degree of freedom is :

   (i) 2n (ii) n

   (iii) n^2 (iv) 3n

(c) The degree of freedom of error of R. B. D. is :

(i) $(r-1)(t-1)$

(ii) $(t-1)$

(iii) $(r-1)$

(iv) $(r-1)(t-1)$ ..... same (i)

(d) For testing $H_0 : \mu_1 = \mu_2$, the suitable test statistic is :

(i) t

(ii) χ^2

(iii) F

(iv) None of these

(e) The sample mean is _____ estimate of the population mean.

(i) Biased

(ii) Positive Biased

(iii) Unbiased

(iv) None of these

(f) The M. G. F. of χ^2 distribution is :

(i) $(1-2t)^{-n}$

(ii) $(1-2t)^{-2n}$

(iii) $(1-2t)^{-n/2}$

(iv) $(1-t)$

(g) Rejection of correct hypothesis is :

(i) Type II error

(ii) Sampling error

(iii) Type I error

(iv) None of these

(h) There are _____ basic principles of design.

(i) 2 (ii) 1

(iii) 3 (iv) 4

(i) The range of t variate is :

(i) 0 to ∞ (ii) $-\infty$ to 0

(iii) $-\infty$ to ∞ (iv) 0 to 1

(j) The test is called one tail or two tail test which depend on :

(i) Null hypothesis

(ii) Level of significance

(iii) Alternative hypotheses

(iv) None of these

Group – B

(Short-answer Type Questions)

Answer any **four** questions of the following : 5×4 = 20

2. Define Completly Randomised Design (CRD).

3. Obtain mean of χ^2 distribution.

4. Define Null and Alternative hypotheses.

5. Discuss student's t distribution.

6. Show that sample mean is unbiased estimate of the population mean.

7. Name the test statistic for testing $H_0 : \mu_1 = \mu_2$, and also define the procedures for testing.

Group – C

(Long-answer Type Questions)

Answer any **three** questions of the following : $10 \times 3 = 30$

8. What are the criteria of a good estimate ? Explain each with example.

9. Discuss χ^2 distribution. Find its Variance and M. G. F.

10. Discuss the three basic principles of design.

11. Obtain the M. L. E of the unknown parameter (p) of Binomial distribution when n is known.

12. What is Randomised Block Design ? Give its layout and analysis of variance.

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