16/17BBC/BBT/BBI41

USN

Fourth Semester M.Tech. Degree Examination, June/July 2019
Research Methodology, Biosafety and IPR

Time: 3 hrs.

Max. Marks: 80

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

1 a. Distinguish between one tailed and two tailed hypotheses with example. **(04 Marks)**
   b. Data from 200 persons revealed the following of 150 persons with an unhealthy diet. 98 had high cholesterol levels, whereas, of the reaming 50 persons whose diet was healthy 10 persons had high cholesterol level. Assuming that the cholesterol levels of all the remaining persons was normal, test the hypothesis that the healthiness of diet and cholesterol levels are associated. Given df = 1, at p = 0.025 and 0.05 table values are 3.84 and 2.71 respectively. **(08 Marks)**
   c. Distinguish independent and dependent variables with examples. What is a confounding variable. **(04 Marks)**

OR

2 a. How does a randomized block design differ from Latin square design? Elucidate with example. **(08 Marks)**
   b. In a survey on a health drink, 12 athletes were enrolled as participants. In condition A, these participants led to clear 20 hurdles without consumption of the health drink while in condition B they had to clear the same 20 hurdles after taking the health drink. The number of hurdles cleared by each participant under conditions A and B were as follows :

Participant No.	1	2	3	4	5	6	7	8	9	10	11	12
Condition A	12	10	7	12	8	10	13	8	14	11	15	11
Condition B	8	10	8	11	3	10	7	9	10	9	12	10

   Test the hypothesis that the health drink improved the performance of the athletes, using the Wilcoxon test. For N = 10, values are 11 and 5 at p = 0.05 and p = 0.01 respectively. State the limitations of the sign test vis – a – vis Wilcoxon test. **(08 Marks)**

Module-2

3 Distinguish with examples between the following :
   a. Accidental and mosic plagiarism **(08 Marks)**
   b. Provisional and complete patent applications. **(08 Marks)**

OR

4 Distinguish with examples, between :
   a. Trademark and Industrial design **(08 Marks)**
   b. Conventional and Divisional patent application. **(08 Marks)**

Module-3

5 Distinguish between following with examples :
  a. Patent licensing and disclosure (08 Marks)
  b. National and PCT procedures for patent filing. (08 Marks)

OR

6 With relevant case studies, elucidate the role of IP in biotechnology RLD and manufacture. (16 Marks)

Module-4

7 Distinguish between the following with examples :
  a. GMOS and LMOS (04 Marks)
  b. RCGM and GEAC (04 Marks)
  c. Risk assessment and risk management. (08 Marks)

OR

8 Explain the precautions to be taken prior to environment release of GMOS. (16 Marks)

Module-5

9 a. What is the Budapest Treaty? Explain. (08 Marks)
  b. How do the WIPO treaties differ from PCT? Explain. (08 Marks)

OR

10 a. Explain the scope of the Madrid agreement. (08 Marks)
  b. Elucidate the scope of the Hague agreement. (08 Marks)

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