M.Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER 2019

SEMESTER –1: AQUACULTURE AND FISH PROCESSING

COURSE: **16P1AQCT03: BIOSTATISTICS AND COMPUTER APPLICATION**

(Common for Regular 2019 admission and Supplementary 2018, 2017 & 2016 Admissions)

Time: Three Hours   Max. Marks: 75

SECTION – 1

*Write short notes on **any eight** of the following*

1. Define the functional units of a computer.
2. Distinguish between a sample and population.
3. Define correlation coefficient with an example.
4. Explain the conditions for using secondary data.
5. Briefly explain how a frequency distribution table is formed for a given data set
6. Explain the difference between Karl Pearson's coefficient of correlation and Spearman's coefficient of correlation.
7. Define Poisson probability distribution with example for application.
8. What is E-mail. Explain.
9. What is the relation between statistical inference and statistical hypothesis?
10. Explain Snedecor's F- Statistic.
11. Distinguish between t test and One Way ANOVA.   (2 x 8 =16)

SECTION – 2

*Answer **any seven** of the following.*

12. Calculate the standard deviation and its coefficient of dispersion for the following frequency distribution of length of a fish species.

Length(cm.)	50-60	60-70	70-80	80-90	90-100	100-110	110-120
Frequency	50	70	83	120	95	75	42

13. Explain input-output devices, central processing unit and commercially used storage devices.
14. Explain the different types of errors in testing of hypothesis. Distinguish between Null and Alternate hypotheses.
15. Explain the properties of Normal distribution
16. The odds against the price of fish will go up during the next week are 2 **:**1 and odds in favour of the price remaining the same are 1 **:** 3. What is the probability that the price of the fish will go down during the next week.
17. Distinguish between MS office and MS Excel and explain the application of each in statistical computation.

18. Calculate the rank correlation by Spearman's coefficient of correlation for the marks given by two examiners in an examination.

Examiner I	37	81	77	79	69	43	18	88	68
Examiner II	51	87	69	77	82	49	22	90	75

19. Distinguish between process control and product control in statistical quality control and explain the different control charts for attributes.

20. Twenty, half litre water filled bottles are taken at random for dissolved oxygen determination. The number of air bubbles (defects) from the bottles is given in the table. Draw a control chart for this data.

Bottle No.	1	2	3	4	5	6	7	8	9	10
Defects (C)	4	5	7	3	3	5	6	2	4	8
Bottle No.	11	12	13	14	15	16	17	18	19	20
Defects (C)	3	5	4	3	4	5	3	7	6	6

(5 x 7 = 35)

SECTION – 3
*Answer **any two** of the following.*

21. Using One Way ANOVA, test the significance of the difference in the fish landings (in tons) obtained by using three types of gears.

Gear-I	742	488	266	627	745
Gear- II	658	578	466	574	741
Gear-II	568	563	272	470	798

The tabled value of F at 5% level of significance for n_1 = first degrees of freedom= 2 and n_2= second degrees of freedom=12 is 3.88.

22. Make a comparative study of different operating systems. Explain the computational process in MS Excel for calculating mean deviation from mean and coefficient of variation of data tabulated in the form of class interval and frequency.

23. Following table gives the length and weight of 10 fishes of a particular species. Form the length weight relationship and give your conclusion.

Length(cm.)	35	51	71	85	55	41	123	25	31	58
Weight (gms.)	628	731	751	1332	625	500	2371	461	402	765

24. For the following data on export and consumed quantity of a particular species of fish calculate Karl Pearson's coefficient of correlation.

Export (tons)	45	68	60	88	80	73	28	95	35	86
Consumption (tons)	21	55	56	84	60	65	19	89	29	72

(12 x 2=24)