

M.Sc. DEGREE END SEMESTER EXAMINATION - NOVEMBER 2018**SEMESTER –1: AQUACULTURE AND FISH PROCESSING****COURSE: 16P1AQCT03: BIostatISTICS AND COMPUTER APPLICATION***(Common for Regular 2018 admission and Supplementary 2017 & 2016 admission)*

Time: Three Hours

Max. Marks: 75

SECTION-1*Write short notes on **any eight** of the following*

1. Distinguish between sampling study and census study.
2. Distinguish between a measure of central tendency and a measure of dispersion.
3. Explain the merits and demerits of primary data and secondary data.
4. Explain the main components of a computer.
5. Define a programming language used in computers.
6. Define Karl Pearson's coefficient of correlation.
7. Define Binomial probability distribution and write its probability function.
8. Explain the properties of Normal distribution.
9. Explain the different types of computers and brief the advantage of one over the others if any.
10. Distinguish between sample statistic and population parameter.
11. Explain the term test statistic in testing of hypothesis. (2 x 8 =16)

SECTION -2*Answer **any seven** of the following.*

12. Calculate the quartile deviation and its coefficient of dispersion for the following frequency distribution which gives the weight of a particular fish species.

Weight (gms.)	100-110	110-120	120-130	130-140	140-150	150-160
Frequency	12	20	35	28	15	10

13. Detail the functions of different units of a computer and draw the flow chart with an example.
14. Explain type I error, type II error and the power of a test in testing of hypothesis.
15. Distinguish between small sample tests and large sample tests with examples for each.
16. A basket contains 4 No.s of species A of fish and 5 No.s of species B of fish. Another basket contains 3 No.s of the species A and 4 No.s of the species B of fish. One fish is taken at random from each basket. What is the probability that (a) both are species A. (b) both are species B. (c) one is species A and other is species B.
17. Distinguish between MS Word and MS Excel and explain the application of each in statistical computations.
18. Calculate the Spearman's rank correlation coefficient for the marks given by two judges to 10 students in an examination.

Judge I	45	52	38	82	78	80	70	90	16	66
Judge II	48	58	50	89	70	78	84	92	20	73

19. Explain the terms process control and product control and the different control charts for variables.
20. Twenty sets of a particular item, each set containing 200 items is taken for testing the quality of the item. Number of defective items in these 20 sets are 10, 20, 24, 32, 92, 10, 82, 10, 20, 96, 39, 32, 29, 24, 20, 40, 25, 26, 46 and 28. Calculate the control limits for fraction defective chart and give your conclusions. (5 x 7 = 35)

SECTION-3

Answer **any two** of the following.

21. Landing of fishes (in tons) by three different gears is as follows. Test by One Way ANOVA that the fish landings by the three gears do not differ significantly.

Gear-I	740	742	848	660	762
Gear-II	745	650	758	664	754
Gear-III	788	570	653	722	740

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. Explain the Hard Ware and Soft Ware concepts in computer applications. Explain the computational procedure in MS Excel for Arithmetic mean, standard deviation and correlation coefficient with examples for each.
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 (cms.)	22	28	32	48	58	52	53	38	20
Weight (gms.)	458	399	525	428	728	716	735	436	359

24. Calculate Karl Pearson's coefficient of correlation between export and landings of fish from the following data.

Landings(tons)	39	65	62	90	82	75	25	98	36	78
Export (tons)	24	53	58	86	62	68	16	91	28	64

(12 x 2 = 24)