Reg. No…….. Name…… **20P1037**

M.Sc. DEGREE END SEMESTER EXAMINATION OCT.2020: FEBRUARY 2021

SEMESTER –1: AQUACULTURE AND FISH PROCESSING

COURSE: 16P1AQCT03: BIOSTATISTICS AND COMPUTER APPLICATION

(Common for Regular 2020 admission and supplementary 2019/2018/2017/2016 admissions)

Time: Three Hours Max. Marks: 75

SECTION 1

Write short notes on any eight of the following

1. Machine language
2. Operating system
3. Type I and Type II error
4. Define computer virus.
5. Explain the main components of a computer.
6. Spearman's rank correlation
7. Define Karl Pearson's coefficient of correlation.
8. Define Poisson probability distribution with example for application.
9. t-test and its assumptions
10. What is range?
11. Distinguish between sample statistic and population parameter.

(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. Explain internet and its services.
14. In a recreational fishing game, a participant is allowed three attempts at scoring a hit. In the three attempts he should use alternate baits A and B. Thus he has two possibilities – A, B and A or the sequence of baits B, A and B. His chance of scoring a hit with bait A is 0.8 and that of bait B is 0.5. Find the probability that he scores at least two hits.
15. (a) What do you mean by Poisson distribution.
    (b) Fit a Poisson distribution for the following data with respect to number of red blood corpuscules:

No. of RBC

x	0	1	2	3	4	5	6	7	8
f	162	193	115	83	44	24	19	8	2

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. The following score represent nurses' assessment and physicians' assessment of condition of 10 patients at the time of admission to a trauma center:

X	18	13	18	15	10	12	8	4	7	3
Y	23	20	18	16	14	11	10	7	6	4

Obtain the regression equation y on x

18. Explain different types of printers.
19. Distinguish between small sample tests and large sample tests with examples for each.
20. Explain Compilers, Interpreters, and Assemblers. (5 x 7 = 35)

SECTION 3

Write an essay on any two of the following

21. The table below gives the length of catla observed from a growth experiment study in a reservoir. Classify the data into a frequency table with suitable class interval. Compute the mean, mode and median from the data. Comment on the data distribution.

390	394	381	500	458	820	391	393	287
385	425	312	380	465	437	580	429	340
360	320	360	809	450	422	362	374	265
780	440	385	374	395	392	675	510	805
806	446	385	370	445	435	412	534	560
650	431	370	410	376	445	370	380	495
648	440	491	433	610	443	467	485	400
395	362	406	365	359	585	610	412	560
424	440	425	525	472	445	402	448	405
395	600	425	446					

22. 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-II	788	570	653	722	740

23. (a) Explain the Hard Ware and Soft Ware concepts in computer applications.
    (b) Explain the sorting and filtering in MS Excel with examples for each.
24. (a) What is an F-test? Mention its applications in hypothesis testing.
    (b) Growth of pearlspot was studied in two experimental conditions. Two random samples of sizes 11 and 9 fishes show the sample standard deviations of their weights after two months as 0.8 and 0.5 respectively. Assume that the weight distributions are Normal and we want to test the hypothesis that the true variances are equal, against the alternative that they are not equal at 10% level. (The significant values of two-tailed F at 10% are 3.35 and 0.326 respectively for 10,8 d.f.)

(12 x 2 = 24)