Sub: Math 208 Full marks: 25 Pass marks: 15 Time: 1 hour

Section A

[1Q*7=7 marks]

1. In Kathmandu, saving banks are permitted to sell a form of life insurance called Saving Bank Life Insurance. The approval process consists of underwriting, which includes a review of the application, a medical information bureau check, possible requests for additional medical information and medical exams and a policy compilation stage where the policy pages are generated and sent to the bank for delivery. The ability to deliver approved policies to customers in a timely manner is critic to the profitability of this service to the bank. During a period of one month, a random sample of 27 approved policies was selected and the total processing time in days was recorded with the following results:

73	19	16	64	28	28	31	90	60
56	22	18	45	48	17	17	17	91
92	63	50	51	31	56	69	16	17

a. Construct a box and whisker plot. (use the concept of individual data) (4)
b. Are the data skewed? If so, how? (1)
c. Detect the outlier if any? (2)

Section B

[3Q*4=12 marks]

2. Scores of two golfers for 10 rounds were as follows:

Golfer A	74	75	78	78	72	77	79	78	81	76
Golfer B	86	84	80	88	89	85	86	82	82	79

Find which golfer may be more consistent player.

3. A political prisoner is going to be exiled either to Nakkhu or to Charkhal. The probability of being exiled to these places is reported to be 0.60 and 0.40 respectively. The prisoner knows that 50% residents in Nakkhu used to wear long fur coat and 70% of the residents of the Charkhal used to wear long fur coat. Upon arrival in exile, the first person the prisoner observes was not wearing long fur coat, what is the probability that the prisoner is in Nakkhu?
4. The weekly wages of workmen are normally distributed around a mean of Rs 75 with a standard deviation of Rs 10. Find the probability of workers when weekly wages will be between Rs 65 and 80. Also find the limit for middle 70 % workers.

Section C

[3Q*2=6 marks]

5. Obtain the mode using following table:

Salary (000)	20-30	30-40	40-50	50-60	60-70
No. of employes	7	11	24	32	9

6. If sample size (n) and probability of concern (p) are 7 and 0.45 respectively then find the mean and the variance of the distribution.
7. Differentiate between Population and Sample.

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