POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

POSTGRADUATE DIPLOMA IN ANATOMY EXAMINATION
NOVEMBER – 2017

INTEGRATED MODULE 2

STRUCTURED ESSAY QUESTION PAPER

Date: 18th November 2017   **Time: 10.30 a.m. – 11.00 a.m.**

Answer all questions.
Answer each question in a separate book.

1. A 25 year old female had a total thyroidectomy done for a multinodular goiter.

   1.1 List two important nerves that may be damaged during the above surgical procedure and briefly describe the consequences of such damage.

   (25 marks)

   1.2 Write short notes on parathyroid glands.   (25 marks)

2. Describe the boundaries and the contents of the posterior triangle. Add a note on its clinical importance.   (50marks)

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POSTGRADUATE DIPLOMA IN ANATOMY EXAMINATION
NOVEMBER – 2017

STATISTICS MODULE (3)

ESSAY PAPER

Date: 18th November 2017　　　　**Time: 9.00 a.m. – 10.00 a.m.**

Answer all questions.
Answer each question in a separate book.

1.

1.1　List four (04) properties of the normal curve.　　　(04 marks)

1.2　The heights of a large population of men follow a normal distribution with a mean of 172 cm and a standard deviation of 6.5 cm. In this population, what height is exceeded by 2.3%?　　　(15 marks)

1.3　Indicate the scale of measurement for the following variables;
Weight, Race, Time, Age, Height, Ethnicity　　　(06 marks)

2.

2.1　List two characteristics of the following;

　　2.1.1　Inter-quartile range (IQR)　　　(02 marks)

　　2.1.2　Standard error of the sample mean (SE)　　　(02 marks)

　　2.1.3　Median　　　(02marks)

　　2.1.4　Mean　　　(02 marks)

　　2.1.5　Range　　　(02 marks)

2.2　The mean height of soldiers in a regiment was 173.58 cm with a variance of 27.13 cm^2. How many soldiers would you expect to be taller than 180 cm. This regiment had 1000 soldiers.　　　(15 marks)

3.

3.1 Find the mean, the median and the mode for the following data.
4, 3, 2, 6, 4, 5   (15 marks)

3.2 What is the best measure of the center for this data?   (05 marks)

3.3 Give reasons for your answer to question 3.2.   (05 marks)

4. The following are the results of a survey carried out by a Blood Bank.

BLOOD TYPE	MALE	FEMALE	TOTAL
O	0.21	0.21	0.42
A	0.215	0.215	0.43
B	0.055	0.055	0.11
AB	0.02	0.02	0.04
TOTAL	0.50	0.50	1.00

4.1 Find the probability of a randomly selected person having either blood type O or A?   (05 marks)

4.2 Find the probability of a randomly selected person being a male and having blood type O?   (05 marks)

4.3 Find X, Y, Z for the following data.   (15 marks)

1	0 9 X
2	9 Y
3	0 2 Z 2 8

POSTGRADUATE INSTITUTE OF MEDICINE
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POSTGRADUATE DIPLOM IN ANATOMY EXAMINATION
SEPTEMBER – 2018

STATISTICS MODULE - 3

STRUCTURED ESSAY QUESTION PAPER

Date: 9th September 2018   **Time:** 9.30 a.m. – 10.30 a.m.

Answer all questions.
Answer each question in a separate book.

1. Define the following terms

    1.1. Standard deviation   (30 marks)

    1.2. Confidence interval   (35 marks)

    1.3. Z score   (35 marks)

2. The mean of a set of diastolic blood pleasure (BP) readings is 80 mmHg and the standard deviation is 12 mmHg.

    2.1. Calculate the coefficient of variation for diastolic BP   (20 marks)

    2.2. What percent of individuals fall between diastolic BP 68 and 104 mmHg?
                                                                   (30 marks)

    2.2 What percent of individuals fall between diastolic BP 56 mmHg and 104 mmHg?   (30 marks)

    2.3. Mention two (02) assumptions used for the calculations in 2.2 and 2.3 above.
                                                                   (20 marks)

3. Calculate 95% confidence intervals and interpret your results for the following.

   3.1. Mean hemoglobin among a sample of 400 children is 12 g/dl with standard deviation of 4 g/dl . [standard error of mean = $SEm = \frac{SD}{\sqrt{n}}$].   (50 marks)

   3.2. The prevalence of knee osteoarthritis in a sample of 225 elderly females is 25%. [standard error of proportion = $SEp = \sqrt{p(1-p)/n}$].   (50 marks)

4. Write an appropriate statistical test for the situations given below, giving one reason each for your choice.

   4.1. To compare prevalence of obesity between two (02) samples of 50 males and 50 females.   (25 marks)

   4.2. To test the correlation between age and the systolic blood pressure in a sample of 30 adults.   (25 marks)

   4.3. To compare the mean femur length between Indian and Chinese populations, based on two (02) large samples from the respective population.

   (25 marks)

   4.4. To investigate the effect of amoxicillin-clavulanic acid in contrast to amoxicillin in achieving clinical cure, in a randomized controlled trial of 80 patients with lower respiratory tract infection.   (25 marks)