Reg. No.										

MANIPAL UNIVERSITY

THIRD YEAR B.Sc. OPTOMETRY DEGREE EXAMINATION – DECEMBER 2008

SUBJECT: RESEARCH METHODOLOGY AND STATISTICS

Wednesday, December 10, 2008

Time: 10.00-13.00 Hrs. Max. Marks: 80

Answer ALL the questions.

1. Define the various scales of measurement with their properties. Give one example each. (10 marks)

2A. Define: i) population ii) sample iii) parameter iv) statistic v) probability sampling vi) non probability sampling

2B. The following is data obtained from a study on physical endurance score based on several exercise routines.

254, 182, 180, 198, 222, 165, 220, 232, 214, 218, 169, 191, 251, 188, 210, 188, 190, 187, 194, 187, 194, 222, 201, 195, 191, 213, 187, 124, 206, 195, 192, 235, 135, 151, 134, 206, 227, 175, 252, 172, 204, 199, 173, 240, 239, 204, 218, 175, 234, 205.

i) Prepare a frequency distribution of the above data with class intervals 120 – 129, 130 – 139, 140 – 149, etc.

ii) Depict the frequency distribution obtained above using appropriate graph.

(6+(4+5) = 15 marks)

3A. Describe briefly the different measures of variation with the merits and demerits.

3B. In a study of fingerprints an important quantitative characteristic is the total ridge count for the 10 fingers of an individual. Suppose that the total ridge counts of individuals in a certain population are approximately normally distributed with a mean of 140 and a standard deviation of 50. Find the probability that an individual picked up at random from this population will have a ridge count:

i) Of 190 or more

ii) Less than 90

iii) Between 90 and 240?

3C. Define correlation. How do you measure correlation? What are the properties of the measure of correlation?

(10+6+5 = 21 marks)

4A. What is health information system (HIS)? What are the components of HIS?

4B. Define: i) Rate ii) Ratio iii) Proportion iv) Incidence

4C. The mid-year population of a village for the year 2004 was 80,000. There were a total of 1600 births in the same year in the village. A total of 80 infants died during the year 2004. Calculate the crude birth rate and infant mortality rate and give your comments.

((1+4)+4+(2+2+1) = 14 marks)

5. Briefly describe the descriptive epidemiological methods. (10 marks)

6A. Enumerate the steps involved in research process.

6B. Write short notes on reliability and validity.

(5+5 = 10 marks)

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MANIPAL UNIVERSITY

THIRD YEAR B.Sc. OPTOMETRY DEGREE EXAMINATION – DECEMBER 2008

SUBJECT: SQUINT AND BINOCULAR VISION

Thursday, December 11, 2008

Time: 10.00-13.00 Hrs. Max. Marks: 80

- **All questions are compulsory.**
- **Draw diagrams wherever necessary.**

1. Elaborate on the methodology you are going to follow if a 7-year-old boy comes to you with a complaint of inward deviation of eyes.

(20 marks)

2. Explain in detail on the anatomy and actions of individual extraocular muscles.

(20 marks)

3. Write short notes on:

3A. Differentiate between the terms Egocentric localization, Horopter and Panum's space.

3B. A-V Phenomena.

3C. What is NPC and NPA? How can you determine it clinically?

3D. What are the different classification for strabismus?

3E. Demonstrate diplopia charting for a patient with superior rectus palsy (OD).

(8×5 = 40 marks)

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THIRD YEAR B.Sc. OPTOMETRY DEGREE EXAMINATION – DECEMBER 2008

SUBJECT: CONTACT LENS

Friday, December 12, 2008

Time: 10.00-13.00 Hrs. Max. Marks: 80

✍ **All questions are compulsory. Draw diagrams wherever necessary.**

1. Explain in detail of the inspection and verification of contact lenses.

(20 marks)

2. Elaborate on the methodology of work up you are going to follow if a girl of 20 years presents to you with a spectacle correction of OU -10.00/-0.75 × 90°. (6/9) who want to shift to contact lenses.

(20 marks)

3A. List the advantages of correct blinking for:
   i) Rigid contact lens wearers
   ii) Soft contact lens wearers

3B. Comment on the design and optics of bifocal contact lenses.

3C. What are the indications for bandage contact lens therapy? What are their complications?

3D. What are the effects of contact lenses on corneal physiology?

3E. As used in rigid gas-permeable lens fitting, describe the appearance of a fluorescein pattern with indicating
   i) An alignment or "on-K" fit
   ii) A "flatter than K" fit
   iii) A "steeper than K" fit
   iv) A satisfactory fit on a cornea having against the rule astigmatism.

(8×5 = 40 marks)

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THIRD YEAR B.Sc. OPTOMETRY DEGREE EXAMINATION – DECEMBER 2008

SUBJECT: OCULAR DISEASES + EYE AND SYSTEMIC DISEASES

Saturday, December 13, 2008

Time: 10.00-13.00 Hrs. Max. Marks: 80

✍ **All questions are compulsory. Draw diagrams wherever necessary.**

1. Discuss etiopathogenesis, clinical features, complications and treatment of Bacterial corneal ulcers.

(20 marks)

2. Classify congenital cataract. Discuss the management of paediatric cataract.

(20 marks)

3. Short notes:

3A. Staphyloma

3B. Lens induced glaucoma

3C. Optical Rehabilitation of Aphakia

3D. Optic Neuritis

3E. Tests for Diplopia.

(8×5 = 40 marks)

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THIRD YEAR B.Sc. OPTOMETRY DEGREE EXAMINATION – DECEMBER 2008

SUBJECT: LOW VISION AIDS

Monday, December 15, 2008

Time: 10.00-11.30 Hrs. Max. Marks: 40

- **All questions are compulsory.**
- **Draw diagrams wherever necessary.**

1. What is Retinitis Pigmentosa? Explain its clinical features and Low Vision management options in detail.

(20 marks)

2. Write notes on:

2A. Bioptic Telescope

2B. Stand Magnifier

(5×2 = 10 marks)

3. Write in detail about the methods of Magnification applied in Low vision devices and practice with examples.

(10 marks)

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THIRD YEAR B.Sc. OPTOMETRY DEGREE EXAMINATION – DECEMBER 2008

SUBJECT: GERIATRIC OPTOMETRY AND PAEDIATRIC OPTOMETRY

Tuesday, December 16, 2008

Time: 10.00-11.30 Hrs. Max. Marks: 40

All Questions are compulsory. Draw diagrams wherever necessary.

1. Give an account of the Optometric Examination of older patients.

(20 marks)

2. A 3 year old child brought to your clinic for routine eye examination. What are the procedures you would follow to examine that child?

(15 marks)

3. Write a note on embryology of the eye.

(5 marks)