Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

THIRD YEAR B.SC. OPTOMETRY DEGREE EXAMINATION – JUNE 2006

SUBJECT: RESEARCH METHODOLOGY AND STATISTICS

Wednesday, June 14, 2006

Time: 3 Hrs. Max. Marks: 80

1A. Differentiate Research method and research methodology.

1B. What is a variable? Distinguish between discrete and continuous variable with one example each.

(5+(2+4) = 11 marks)

2A. Explain the characteristics of Ordinal scale with example.

2B. List the advantages of stratified random sampling over simple random sampling. Give an example for stratified random sampling.

(4+(3+2) = 9 marks)

3. Following is the height of 30 students in a class.

Height (in cm) of 30 students in a class				
157.0	162.9	153.4	166.2	159.4
148.7	158.5	161.0	173.7	158.0
161.0	157.5	154.9	154.9	172.7
153.9	169.9	157.5	168.8	160.0
167.9	158.2	153.7	154.8	152.4
151.4	146.3	152.1	172.1	159.4

i) Construct a frequency table with class intervals 145-150, 150 – 155, ... etc. for the following data.

ii) Construct relative (percentage) frequency distribution.

iii) Find out the percentage of students with height less than 155 cm.

(5+3+2 = 10 marks)

4A. Calculate median and standard deviation for the following data.

Sys. B.P (mmHg): 125, 125, 117, 125, 120, 129, 125, 116

4B. Define and explain the use of Coefficient of Variation.

(2+4)+5 = 11 marks)

5A. Explain negative and positive correlation with example.

5B. If the total cholesterol values for a certain population are approximately normally distributed with a mean of 200 mg/100 ml and a standard deviation of 30 mg/100 ml, find the probability that an individual picked at random from this population will have a cholesterol value:

i) Between 230 and 260 mg/100 ml ii) Less than 170 mg/100ml

(4+5 = 9 marks)

6A. Enumerate the uses of health information system. List the requirements to be satisfied by the health information systems.

6B. Explain the terms incidence and prevalence with example.

((3+2) +5 = 10 marks)

7A. Differentiate Reliability and validity with example.

7B. Define infant mortality rate. What are its uses? Discuss its indications.

(5+5 = 10 marks)

8. Define epidemiology. What is descriptive epidemiology? State its uses.

(2+5+3 = 10 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

THIRD YEAR B.Sc. OPTOMETRY DEGREE EXAMINATION – JUNE 2006

SUBJECT: SQUINT AND BINOCULAR VISION

Thursday, June 15, 2006

Time: 3 Hrs. Max. Marks: 80

All questions are compulsory. Draw diagrams wherever necessary.

1A. Define binocular vision. Do reptiles have binocular vision? Justify your answer. Is binocular vision a peculiar characteristic to any class in the animal kingdom? Justify your answer.

1B. Define Egocentric localization, Horopter and Panum's space.

1C. List the pre-requisites for development of binocular vision.

(20 marks)

2. You have a boy of 5 years with a diagnosis of amblyopia (OS) from his prior ophthalmic consultation in your clinic. Discuss about the condition and the different treatment modalities available.

(20 marks)

3. Write short notes on:

(8×5 = 40 marks)

3A. Anomalous Retinal Correspondance.

3B. Duane's Retraction Syndrome.

3C. Nystagmus.

3D. Special tests for incomittant squint.

3E. Exodeviations.

Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

THIRD YEAR B.Sc. OPTOMETRY DEGREE EXAMINATION – JUNE 2006

SUBJECT: CONTACT LENS

Friday, June 16, 2006

Time: 3 Hrs. Max. Marks: 80

All questions are compulsory. Draw diagrams wherever necessary.

1. Comment on the optics of contact lenses. What are the characteristics a material should ideally have for contact lenses?

(20 marks)

2. What are the anatomical and physiological considerations for contact lens fitting?

(20 marks)

3A. 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 with-the rule astigmatism.

3B. Give the FDA classification of soft contact lens material based on water content and ionicity. To which class or classes do most daily wear soft daily wear and extended wear contact lens belong?

3C. What are the insertion and removal instructions that you will be giving your patient while dispensing RGP contact lens for the first time?

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

3E. In regard to gaint papillary conjunctivitis occurring as a result of hydrogel lens wear

i) What are patient symptoms?

ii) What are the clinical signs?

iii) What is the probable mechanism responsible for the condition?

(8×5 = 40 marks)

Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

THIRD YEAR B.Sc. OPTOMETRY DEGREE EXAMINATION – JUNE 2006

SUBJECT: OCULAR DISEASES + EYE AND SYSTEMIC DISEASES

Saturday, June 17, 2006

Time: 3 Hrs. Max. Marks: 80

All questions are compulsory. Draw diagrams wherever necessary.

1. Mention the anomalies of accommodation. Describe the various types of lenses designs used to correct presbyopia.

(20 marks)

2. Describe the anatomy and physiology of tear film. Mention the tests for dry eye.

(20 marks)

3. Short notes:

3A. Colour vision

3B. Low Vision Aids

3C. Herpetic keratitis

3D. Pseudo exfoliation syndrome

3E. Traumatic hyphaema

(8×5 = 40 marks)

Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

THIRD YEAR B.Sc. OPTOMETRY DEGREE EXAMINATION – JUNE 2006

SUBJECT: LOW VISION AIDS

Monday, June 19, 2006

Time: 1½ Hrs. Max. Marks: 40

✍ **All questions are compulsory.**

1. Give an account of your examination and corrective techniques for distance acuity in low vision patients.

(20 marks)

2A. What are the characteristics of stand magnifiers?

2B. Elaborate on the approaches towards low-vision.

(10+10 = 20 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

THIRD YEAR B.Sc. OPTOMETRY DEGREE EXAMINATION – JUNE 2006

SUBJECT: GERIATRIC OPTOMETRY AND PAEDIATRIC OPTOMETRY

Tuesday, June 20, 2006

Time: 1½ Hrs. Max. Marks: 40

All questions are compulsory. Draw diagrams wherever necessary.

1. Elaborate on visual development scale.

(20 marks)

2. Explain in detail about the aphakic spectacle lens design and frame selection.

(15 marks)

3. List the items of information that should be obtained in each of the following parts of patient history in a geriatric subject:

3A. chief complaint.

3B. ocular history.

3C. health history and medications.

3D. family and ocular health history.

(5 marks)