

MANIPAL UNIVERSITY

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

SUBJECT: RESEARCH METHODOLOGY AND STATISTICS

Monday, June 16, 2008

Time: 3 Hrs.

Max. Marks: 80

✍ **Answer ALL the questions.**

1A. Define variable. What are the different types of variables? Give examples for each of them.

1B. Classify the following according to their scales of measurement:

Age at onset of disease, degree of pain, number of tasks completed in a functional test, diagnosis of the disease, occupation of the patients, blood glucose levels, severity of a disease, pulse rate.

((1+2+2)+5 = 10 marks)

2A. What is meant by probability sampling method? Describe briefly the stratified random sampling with merits and demerits. Discuss the use of random number table in sampling.

2B. The following is data obtained from the records of a hospital on the disorders observed among patients:

Disorders	Number of patients
Neurological	250
Orthopaedic	145
Musculo-skeletal	150
Hearing	100
Speech	55

Represent the above data using a pie diagram.

((1+5+4)+5 = 15 marks)

3. In a study of physical endurance levels of 20 male college freshers the following composite endurance scores based on several exercise routines were collected:

254, 182, 180, 198, 222, 165, 265, 222, 272, 232,

214, 218, 169, 191, 251, 188, 269, 210, 188, 190

Calculate:

i) mean ii) median iii) mode iv) range v) standard deviation

(2+2+1+1+4 = 10 marks)

4A. With the help of a scatter diagram explain the properties of the correlation coefficient.

4B. Suppose the age at time of onset of a certain disease are approximately normally distributed with a mean of 12 years and a standard deviation of 3 years. In a sample of 300 children how many would you expect to be

- i) Between 9 years and 18 years?
- ii) Above 12 years?
- iii) Below 6 years?

(5+(2+1+2) = 10 marks)

5A. Briefly describe the following:

- i) Census
- ii) Registration of vital events
- iii) Sample registration system
- iv) Requirements of Health Information System.

5B. The following is data obtained from women in reproductive age group from a village in the year 2006:

Age group	Number of women	Number of live births
15 – 19	200	4
20 – 24	250	8
25 – 29	300	20
30 – 34	250	19
35 – 39	200	10
40 – 44	150	4

Calculate the age specific fertility rate for the above data.

$((2\frac{1}{2} \times 4) + 5 = 15 \text{ marks})$

6. Write short essays on the following:

- 6A. Steps in research
- 6B. Cross sectional studies
- 6C. Reliability and validity
- 6D. Skewness and kurtosis.

(5×4 = 20 marks)



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MANIPAL UNIVERSITY

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

SUBJECT: SQUINT AND BINOCULAR VISION

Tuesday, June 17, 2008

Time: 3 Hrs.

Max. Marks: 80

✍ Answer ALL questions.

1. What are esodeviations? Classify esodeviations. Brief on etiology, clinical characteristics and management of accommodative and non accommodative esotropia.

(2+4+7+7 = 20 marks)

2A. Define amblyopia. Brief on anisometropic, strabismic and vision deprivation amblyopia.

2B. Give a brief outline of the non surgical management of strabismus.

(10+10 = 20 marks)

3. Write short notes on:

3A. Definition, etiology, signs, symptoms and management of primary exodeviations

3B. VI Cranial nerve palsy

3C. A and V pattern squint

3D. Pseudostrabismus

3E. Synaptophore

(8×5 = 40 marks)



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MANIPAL UNIVERSITY

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

SUBJECT: CONTACT LENS

Wednesday, June 18, 2008

Time: 3 Hrs.

Max. Marks: 80

✍ Answer ALL questions.

1. Ocular complications due to soft contact lenses and its management.
(20 marks)

2. Elaborate on your methodology of work up and dispensing for a bilateral aphake of age 50 who has come to you for contact lenses? He is an initial wearer. What additional things has to be taken into consideration while fitting and dispensing a paediatric aphake?
(10+4+6 = 20 marks)

3. Write short notes on:
 - 3A. What are Therapeutic Bandage contact lenses? Its
 - i) Post-operative uses
 - ii) Lens selection and fitting considerations
 - 3B. Define primary and secondary focal points of a lens. Describe effective power and its application in contact lens practice with examples.
 - 3C.
 - i) When do you prefer to go ahead with soft spherical lens fitting for a patient?
 - ii) The spectacle prescription -8.00/-2.00 x 175 is not likely to result in acceptable vision for a patient if fitted with spherical soft contact lenses. True or False. Give justification.
 - 3D. What are the physical and chemical properties of soft contact lens materials? Write a note on FDA classification.
 - 3E. Explain in detail about the optical and the therapeutic indications of contact lens.
(8×5 = 40 marks)



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

SUBJECT: OCULAR DISEASES + EYE AND SYSTEMIC DISEASES

Thursday, June 19, 2008

Time: 3 Hrs.

Max. Marks: 80

1. Write briefly about anatomy of lacrimal drainage system, lacrimal pump and congenital anomalies of lacrimal system and its management.
(20 marks)

2. Write briefly about gonioscopy. Discuss signs and management of acute congestive glaucoma.
(20 marks)

3. Write short notes on:
 - 3A. Vitreous haemorrhage
 - 3B. Photocoagulation
 - 3C. Trichiasis
 - 3D. Ectropion
 - 3E. Senile Cataract

(8×5 = 40 marks)



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MANIPAL UNIVERSITY
THIRD YEAR B.Sc. OPTOMETRY DEGREE EXAMINATION – JUNE 2008
SUBJECT: LOW VISION AIDS

Friday, June 20, 2008

Time: 1½ Hrs.

Max. Marks: 40

☞ All questions are compulsory. Draw diagrams wherever necessary.

1. Write an essay on Afocal Telescopes and its uses in Low Vision practice.

(20 marks)

2. Write notes on:

2A. CCTV

2B. ARMD

(5×2 = 10 marks)

3. Write in detail on the Optics on Near Vision Devices.

(10 marks)



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

SUBJECT: GERIATRIC OPTOMETRY AND PAEDIATRIC OPTOMETRY

Saturday, June 21, 2008

Time: 1½ Hrs.

Max. Marks: 40

✍ All questions are compulsory. Draw diagrams wherever necessary.

1. Elaborate on the management of a 10 year old child having Unilateral Aphakia visiting your clinic under following headings.
 - 1A. What are the treatment options available for the child?
 - 1B. Explain in detail about the fitting procedure of contact lens.
 - 1C. What are the instructions given to the parents?
 - 1D. Write a note on problems usually seen in follow up visits in children wearing contact lenses. (20 marks)

2. Write a note on common age related disorders in eye lid, conjunctiva and cornea. (15 marks)

3. Comment on the suitable lens materials and designs while prescribing older patients. (5 marks)

