Reg. No.										

MANIPAL UNIVERSITY

THIRD YEAR B.Sc. OPTOMETRY DEGREE EXAMINATION – DECEMBER 2010

SUBJECT: RESEARCH METHODOLOGY AND STATISTICS

(OLD REGULATION)

Monday, December 13, 2010

Time: 10:00-13:00 Hrs. Max. Marks: 80

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1. Define the following:

1A. Crude death rate
1B. Infant mortality rate
1C. Neonatal mortality rate
1D. Post neonatal mortality rate
1E. Perinatal mortality rate

(2×5 = 10 marks)

2A. What do you mean by central tendency? Define the various measure of central tendency.
2B. Calculate range and standard deviation for the following data.

Age of 10 subjects in years	23	27	29	20	32	25	36	31	38	33

(5+5 = 10 marks)

3A. With the help of diagrams enumerate the properties of correlation coefficient.
3B. Hemoglobin levels (in gm%) of 1500 students follows normal distribution with mean 13 and standard deviation 3. What percentage students will have hemoglobin level?
i) Between 16 and 19 ii) Below 7

(5+5 = 10 marks)

4A. What is meant by hypothesis? What are the characteristics of a good hypothesis?
4B. Two medical colleges A & B conducted a study on addiction of alcohol among their students. Out of 1000 students in college A, 200 students reported that they are addicted to alcohol while 350 students out of 1100 from college B reported of addiction. Present this data using a multiple bar diagram.

(5+5 = 10 marks)

5A. Define population, sample, sampling, probability sampling and non-probability sampling.
5B. Briefly explain simple random sampling.

(5+5 = 10 marks)

6A Discuss the various measurement scales with help of appropriate examples.
6B. Define epidemiology and enumerate the uses of epidemiology.

(5+5 = 10 marks)

7. Write short notes on:

7A. Role of statistics in health science research.
7B. Dependent and independent variables with examples.
7C. Health information system and its uses.
7D. Cross sectional studies.

(5×4 = 20 marks)

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MANIPAL UNIVERSITY

THIRD YEAR B.Sc. OPTOMETRY DEGREE EXAMINATION – DECEMBER 2010

SUBJECT: SQUINT AND BINOCULAR VISION

(COMMON FOR BOTH OLD AND NEW REGULATION)

Wednesday, December 15, 2010

Time: 10:00-13:00 Hrs. Max. Marks: 80

✍ **Draw diagram wherever necessary.**

1. Fill up the blanks:

1A. The main use of 15 prism base out test is _____

1B. Maddox wing is used to measure _____

1C. The extra ocular muscle which has its origin from the floor of the orbit is _____

1D. Age at which children are most sensitive to amblyopia is _____

1E. Most common ocular finding of a patient with myasthenia gravis is _____

(1×5 = 5 marks)

2. Write short notes on (any SEVEN):

2A. History taking of a 1 year old with squint.

2B. Differentiate between the terms agonist, antagonist, synergists and yoke muscles with examples.

2C. What is ARC? Differentiate between the types of ARC and angle of anomaly.

2D. List five points that will help you to differentiate between a paralytic and non paralytic strabismus.

2E. Brief on components of convergence and list four methods used for determination of AC/A ratio.

2F. Eccentric fixation.

2G. Browns syndrome.

2H. Write briefly on: i) Striated glasses test of Bagolini. ii) Worth Four Dot Test.

(5×7 = 35 marks)

3. Answer both the questions:

3A. Write on non accommodative esotropia in brief.

3B. Write in brief on any five diagnostic uses of prisms.

(10×2 = 20 marks)

4. Answer any ONE of the following:

4A. Define BSV. Write briefly on

i) Mechanism of BSV
ii) Horopter and pannum's space
iii) Physiological diplopia
iv) Grades of BSV with examples
v) Any three tests to find out whether BSV is present.

(3+5+2+4+6 = 20 marks)

4B. i) Elaborate on your methodology of work up for squint assessment if you have a patient of 3 years with inward deviation of right eye noticed since 1 year to reach a diagnosis. What are the differential diagnosis that you would think on? Justify.

ii) Brief on V pattern esotropia.

(12+6+2 = 20 marks)

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MANIPAL UNIVERSITY

THIRD YEAR B.Sc. OPTOMETRY DEGREE EXAMINATION – DECEMBER 2010

SUBJECT: CONTACT LENS

(COMMON FOR BOTH OLD AND NEW REGULATION)

Friday, December 17, 2010

Time: 10:00-13:00 Hrs. Max. Marks: 80

✍ **Draw diagrams wherever necessary.**

1. Fill in the blanks:

1A. If we increase the sagittal height by keeping the total diameter and BOZR of a soft contact lens unaltered, the contact lens fit will become _____

1B. _____ would be the choice of contact lens for a patient whose OD refraction is -5.00DS (6/6) with keratometry readings 41.00D @ 90/42.25 D @ 180.

1C. A flat fitting RGP lens will show _____ in Fluorescein pattern

1D. The expansion of the term CLPC is _____

1E. _____ is an example for viscosity enhancing agent in a contact lens solution.

(1×5 = 5 marks)

2. Short Notes (Answer any SEVEN):

2A. Soft contact lens manufacturing techniques.

2B. Effect of tear lens in RGP contact lens fitting.

2C. Demonstrate Fluorescein fitting patters (steep, Optimum, flat, Optimum WTRA and optimum ATRA) of RGP contact lenses with neat diagrams.

2D. Clinical uses of prosthetic and cosmetic contact lenses.

2E. Select the most appropriate contact lenses for patients with following parameters and justify your answer.

i)	Refraction :	OD : -3.00DS / -1.75 DC x 145	OS : -2.75DS / -1.50 DC x 35
	Keratometry	OD : K1 = 42.50D @ 35 K2 = 41.50D @ 145	OS : K1 = 43.00D @ 145 K2 = 42.25D @ 35
ii)	Refraction :	OD : -6.00DS	OS : -5.50DS / -0.75DC x 180
	Keratometry	OD : K1 = 44.00D @ 90 K2 = 42.00D @ 180	OS : K1= 43.50 D @ 90 K2 = 43.00D @ 180

2F. Differential diagnoses of redness in the eye in a contact lens user.

2G. Describe about Dk/t. Explain its importance in contact lens practice.

2H. Explain different options to fit contact lens for a patient with astigmatism

(5×7 = 35 marks)

3. Answer all questions:

3A. Calculate the effective power and change in accommodation if patients with refractive errors of +7D and -9D are shifting from spectacle to contact lenses.

3B. Explain in detail about the Indications of therapeutic contact lenses.

(10×2 = 20 marks)

4. Answer any ONE question.

4A. Write an essay on Indications and contra indications of contact lens use.

(20 marks)

4B. These are the parameters measured on a patient's eye who came to you for CLs. (All measurements are for OD)

i) HVID = 11.2mm

ii) BCVA : - 3.00DS / -2.75 DC x 170 (6/6)

iii) Keratometry : K1 = 41.25 @ 170 ; K2 = 44.25 @ 80

iv) Scotopic pupil diameter = 6.1mm

v) Schirmer test (B+R) = 15mm

Design the appropriate contact lens, enumerate the fitting procedure and order the final lens.

(20 marks)

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MANIPAL UNIVERSITY

THIRD YEAR B.Sc. OPTOMETRY DEGREE EXAMINATION – DECEMBER 2010

SUBJECT: OCULAR DISEASES + EYE AND SYSTEMIC DISEASES

(COMMON FOR BOTH OLD AND NEW REGULATION)

Monday, December 20, 2010

Time: 10:00-13:00 Hrs. Max. Marks: 80

1. Explain the clinical features of Primary open angle glaucoma (POAG). What are the visual field changes in POAG and how are they documented? Write in brief regarding the management of primary open angle glaucoma.

(20 marks)

2. Enumerate the various types of refractive surgeries. Explain in brief the steps of LASIK and its post operative complications.

(20 marks)

3. Write short notes on the following:

3A. Relative Afferent Pupillary defect.

3B. Orbital pseudotumor.

3C. Central serous retinopathy.

3D. Multifocal intraocular lens.

3E. Vernal keratoconjunctivitis.

(8×5 = 40 marks)

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MANIPAL UNIVERSITY

THIRD YEAR B.Sc. OPTOMETRY DEGREE EXAMINATION – DECEMBER 2010

SUBJECT: LOW VISION AIDS

(COMMON FOR BOTH OLD AND NEW REGULATION)

Wednesday, December 22, 2010

Time: 10:00-11:30 Hrs. Max. Marks: 40

✍ **Draw diagrams wherever necessary.**

1. Fill in the Blanks:

1A. _____is the suitable telescopic design used for 'spotting activities' like 'Reading bus numbers'.

1B. If a patient reads 6/60 letter at a distance of 1.5m; the visual acuity is recorded as _____.

1C. _____ is an example for visual disability.

1D. According to kestenbaum rule, _____ would be the required starting near addition for a patient whose distant acuity is 20/200?

1E. _____ is the reason for Nystagmus in Albinism patients.

(1×5 = 5 marks)

2. Short Answers (Answer any THREE):

2A. Define Low Vision. Explain how distant and near visual acuity is measured and documented in Low Vision patients.

2B. Explain any two magnification techniques employed in Low vision devices with three examples for each.

2C. Explain the stages of low vision with examples.

2D. Stand Magnifier.

(5×3 = 15 marks)

3. Essay:

3A. Explain the Low vision work-up procedure and management of a patient with Stargardt's disease.

3B. What are the different telescopic designs and its application in Low vision practice?

(10×2 = 20 marks)

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THIRD YEAR B.Sc. OPTOMETRY DEGREE EXAMINATION – DECEMBER 2010

SUBJECT: GERIATRIC OPTOMETRY AND PAEDIATRIC OPTOMETRY

(COMMON FOR BOTH OLD AND NEW REGULATION)

Friday, December 24, 2010

Time: 10:00-11:30 Hrs. Max. Marks: 40

✍ **Draw diagrams wherever necessary.**

1. Fill in the Blanks:

1A. _____ is the most common lid abnormality observed in infants.

1B. _____ is an example of corneal dystrophy seen at birth.

1C. The depth of anterior chamber _____ as the age increases.

1D. The most dreaded complication of CRVO is _____.

1E. Marfan syndrome is transmitted as Autosomal ____trait.

(1×5 = 5 marks)

2. Short Notes (Write any THREE):

2A. Preferential looking tests used to assess visual acuity in Infants.

2B. Write a note on corneal size anomalies in infants. Mention four causes of neonatal corneal opacities.

2C. Contact lens dispensing considerations in geriatric patients.

2D. Changes happens to cornea and uvea due to ageing.

(5×3 = 15 marks)

3. Essay:

3A. Discuss the routine geriatric optometric examination procedure. How this is different from the examination of a younger individual?

3B. Explain the embryologic development of the eye in detail with necessary diagrams.

(10×2 = 20 marks)