

MANIPAL UNIVERSITY

FIRST YEAR MOT/M.Sc. (RRT & DT)/ M.Sc. RT/ M.A.S.L.P/M.Sc. MLT/M.Sc. MIT/
M.Sc. ECHOCARDIOGRAPHY/M. OPT DEGREE EXAMINATION – JUNE 2015

SUBJECT: ADVANCED BIOSTATISTICS & RESEARCH METHODOLOGY/ STATISTICS &
RESEARCH METHODS/BIOSTATISTICS/EPIDEMIOLOGY & BIOSTATISTICS /
RESEARCH METHODOLOGY & BIOSTATISTICS

Tuesday, June 02, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

Answer ALL the questions.

- 1A. With the help of suitable examples discuss the quantitative and qualitative variables.
- 1B. Explain systematic random sampling with an example. What are the advantages and disadvantages of this method?
(5+5 = 10 marks)
- 2A. Discuss skewness and kurtosis.
- 2B. A sample of 50 liver cirrhosis subjects were selected and the mean serum potassium level was observed to be 5.4 mEq/L with standard deviation of 2.5 mEq/L. Find the 95% and 99% confidence intervals for mean serum potassium level among liver cirrhosis subjects. (The standard normal table values for 95% and 99% confidence levels are 1.96 and 2.58 respectively).
(5+5 = 10 marks)
- 3A. Enumerate the steps in hypothesis testing.
- 3B. What do you mean by non-parametric tests? With suitable examples briefly explain the applications of Mann Whitney U test and Wilcoxon signed rank test.
(5+5 = 10 marks)
4. The mean serum cholesterol level of 25 randomly selected normal healthy men is 240 mg/dl with a standard deviation of 40 mg/dl. The mean serum cholesterol level of 20 randomly selected men who undergone coronary bypass surgery during the preceding two year period is 260 mg/dl with standard deviation of 56 mg/dl.
- 4A. Name the statistical test used for comparing the mean serum cholesterol levels between the two groups.
- 4B. Write the null hypothesis and alternate hypothesis for this test.
- 4C. What are the assumptions for this test?
- 4D. Compute the value of test statistic for the above study.
- 4E. Briefly explain how do you take a decision on acceptance and rejection of null hypothesis for the above study.
(1+1+2+4+2 = 10 marks)

- 5A. Explain how do you compute sample size for comparing means of two independent groups.
- 5B. A research team conducted a case-control study examining the relationship between daily alcohol consumption and liver cancer. The team selected 2000 cases and 2000 controls and observed that 700 cases and 400 controls daily take alcohol. Make a two by two table and find the appropriate measure of strength of association between alcohol consumption and liver cancer. How do you interpret it?

(5+5 = 10 marks)

6. What do you mean by randomization in RCTs? Explain the simple, block and stratified randomization methods.

(1+9 = 10 marks)

7. Explain the structure of research thesis.

(10 marks)

8. **Write short notes on:**

- 8A. Survival analysis
- 8B. Validity and reliability of diagnostic tools

(5+5 = 10 marks)



Reg. No.									
----------	--	--	--	--	--	--	--	--	--

MANIPAL UNIVERSITY

FIRST YEAR MASTER OF OPTOMETRY DEGREE EXAMINATION – JUNE 2015

SUBJECT: PAPER – I: LOW VISION AND REHABILITATION
(2014 SCHEME)

Thursday, June 04, 2015

Time: 10:00 – 11:30 Hrs.

Maximum Marks: 40

Answer ALL the questions.

1. A 35 year old house wife, diagnosed as having Retinitis pigmentosa came in to your clinic for low vision evaluation. Her major complaint was that she cannot perform household works especially cooking properly. She was also complaining that she cannot recognize faces, difficulty in walking in familiar and unfamiliar places especially at night, difficulty in travelling and reading bus numbers. Discuss the low vision management for this patient and prepare a detailed rehabilitation plan.
(10 marks)
2. Describe pediatric low vision evaluation in detail. How you will teach a child to use telescope in the classroom?
(7+3 = 10 marks)
3. Explain the clinical significance of Eccentric viewing in low vision care in detail. Write a short note on scanning laser ophthalmoscopy and macular mapping test
(6+4 = 10 marks)
4. Define Diabetic retinopathy under the following headings:
 - 4A. Visual and potential problems
 - 4B. Low vision management
 - 4C. Rehabilitation and counseling
(3+4+3 = 10 marks)



Reg. No.										
----------	--	--	--	--	--	--	--	--	--	--

MANIPAL UNIVERSITY

SECOND YEAR MASTER OF OPTOMETRY DEGREE EXAMINATION – JUNE 2015

SUBJECT: PAPER – VIII: CLINICAL IMAGING

Friday, June 05, 2015

Time: 10:00 – 11:30 Hrs.

Maximum Marks: 40

- ✍ Attempt questions as instructed.
- ✍ Draw diagrams and flowcharts wherever necessary.
- ✍ Answer all the following questions.

1. Explain the following terminologies:

- 1A. Fluorescence
- 1B. Gaussian smoothing
- 1C. Elevation map
- 1D. Raster lines

($2\frac{1}{2}+2\frac{1}{2}+2\frac{1}{2}+2\frac{1}{2} = 10$ marks)

2. Explain in detail about different phases of fundus fluorescein angiography.

(10 marks)

3. Short notes:

- 3A. Clinical applications of confocal microscopy
- 3B. EOG

(5+5 = 10 marks)

4. Describe Scanning laser polarimetry (GDx) under the following headings:

- 4A. Principle
- 4B. Components of GDx report
- 4C. Strengths and limitations

(3+4+3 = 10 marks)



MANIPAL UNIVERSITY**FIRST YEAR MASTER OF OPTOMETRY DEGREE EXAMINATION – JUNE 2015****SUBJECT: PAPER – II: PAEDIATRIC OPTOMETRY & VISION THERAPY
(2014 SCHEME)**

Saturday, June 06, 2015

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 80

- ✍ **Answer ALL questions.**
✍ **Draw diagrams or flowcharts wherever necessary.**

1. Write short notes:

- 1A. Stargarts Disease-etilogy, clinical features and treatment modalities.
1B. Write on five developmental anomalies seen in lens.
1C. List the common causes of childhood blindness globally. The control of blindness in children is considered as high priority within WHO Vision 2020-Right to Sight programme. Why?
1D. What is Autism Spectrum Disorder? Brief on the refractive error assessment techniques used in specially abled children.
1E. Non surgical treatment modalities of Intermittent Divergent Squints.
1F. Neonatal conjunctivitis.
1G. Ocular Examination of a case of ptosis in childhood.
1H. Optometric management of amblyopia.

(5 marks × 8 = 40 marks)

2. Answer the following:

- 2A. Write any five differential diagnoses that you would look for in a child presented with esodeviation at 3 years of age. Justify your answer with clinical features and management options outlined.
- 2B. i) Fitting contact lenses in children is a challenge yet rewarding. Elaborate on the statement.
ii) List the indications for Examination Under Anasthesia for pediatric CL fitting.
iii) After care and counselling

(10 marks)

(4+2+4 = 10 marks)

✍ Essay:

3. Write in detail on the accommodative anomalies with the clinical features, differential diagnosis and management options outlined.

(20 marks)



MANIPAL UNIVERSITY

FIRST YEAR MASTER OF OPTOMETRY DEGREE EXAMINATION – JUNE 2015

SUBJECT: PAPER – III: OCCUPATIONAL OPTOMETRY, PUBLIC HEALTH OPTOMETRY
(2014 SCHME)

Tuesday, June 09, 2015

Time: 10:00 – 11:30 Hrs.

Maximum Marks: 40

☞ Answer ALL the questions.

1. Write on the following artificial light sources:

- 1A. Incandescent lamps
- 1B. Tungsten Halogen
- 1C. Compact Fluorescent Lamp
- 1D. LED lamps
- 1E. High Pressure Mercury lamps

(2+2+2+2+2 = 10 marks)

2. Define Computer Vision Syndrome. How will you manage a case of computer professional with convergence excess?

(1+9 = 10 marks)

3. Write in detail on the ocular effects of acids, alkalis, surfactants and aerosols.

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

4. Write on the brief history of NPCB. What are the new initiatives?

(3+7 = 10 marks)

