

MANIPAL UNIVERSITY**FIRST YEAR MASTER OF OPTOMETRY DEGREE EXAMINATION – MAY/JUNE 2012****SUBJECT: PAPER – II: LOW VISION AND REHABILITATION**

Saturday, June 02, 2012

Time: 10:00 – 11:30 Hrs.

Maximum Marks: 40

✍ Answer ALL the questions.

1. Discuss the role of spectacles and contact lenses in low vision care in detail.
(10 marks)
2. Discuss functional visual assessment in low vision care in detail.
(10 marks)
3. A 27 year old male diagnosed as having macular scar in both the eye came in to your clinic for low vision work up. He is a software engineer and he was complaining of difficulty in recognizing faces, difficulty in reading and working. On examination, his visual acuity was found, OD: 6/120, N36 and OS: 6/60, N24 and there was no significant refractive error as such. How you will precede this case and describe the management including rehabilitation and counseling?
(10 marks)
4. Write a note on Diabetic retinopathy. Explain the visual and potential problems of patients with Diabetic retinopathy and their low vision management.
(4+6 = 10 marks)



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MANIPAL UNIVERSITY

FIRST YEAR MASTER OF OPTOMETRY DEGREE EXAMINATION – MAY/JUNE 2012

SUBJECT: PAPER – III: PAEDIATRIC OPTOMETRY

Tuesday, June 05, 2012

Time: 10:00 – 11:30 Hrs.

Maximum Marks: 40

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

✍ **Write short notes on:**

1. Automated methods of paediatric eye screening. Brief on Bruckner test.
2. Ectopia lentis
3. Common macular problems of childhood
4. Important aspects to be considered in paediatric spectacle dispensing
5. Differential diagnosis of corneal opacity in childhood

(8×5 = 40 marks)



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MANIPAL UNIVERSITY

FIRST YEAR MASTER OF OPTOMETRY DEGREE EXAMINATION – MAY/JUNE 2012

SUBJECT: PAPER – IV: OCCUPATIONAL OPTOMETRY & PUBLIC HEALTH OPTOMETRY

Thursday, June 07, 2012

Time: 10:00 – 11:30 Hrs.

Maximum Marks: 40

- ✍ Answer ALL questions. Each question carries TEN marks.
- ✍ Attempt questions as instructed.
- ✍ Draw diagrams and flowcharts wherever necessary.

1. Describe the management of computer vision syndrome in detail. (10 marks)
2. Enumerate the role of optometrist in industrial safety measures. (10 marks)
3. Describe your optometric plan of management for the following sports personal (Consider both the sports person has significant refractive error)
 - 3A. A Skier
 - 3B. A squash player(5+5 = 10 marks)
4. Define blindness. Give a brief idea on magnitude of blindness in India compared to global scenario. Write in brief about Global initiatives for prevention of blindness. (10 marks)



MANIPAL UNIVERSITY**FIRST YEAR MASTER OF OPTOMETRY DEGREE EXAMINATION – MAY/JUNE 2012
SUBJECT: PAPER – V:RESEARCH METHODOLOGY & BIOSTATISTICS**

Tuesday, May 29, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

Answer ALL the questions.

- 1A. Define mean, median, mode, standard deviation and coefficient of variation for 'n' observations.
1B. Explain stratified random sampling method. (5+5 = 10 marks)
2. Fifty patients with congestive heart failure were weighed before and after receiving a novel diuretic agent and the average weight loss (the difference between the two weights) for this sample was found to be 3.5 KG with a standard error of 2.6 Kg.
2A. Name the statistical test used for testing whether the agent is effective in reducing the weight.
2B. State the null and alternate hypothesis.
2C. Write the test statistic for this test.
2D. Mention the assumptions for the validity of this test.
2E. How do you take a decision on the acceptance or rejection of null hypothesis? (2×5 = 10 marks)
- 3A. What do you mean by sampling distribution and standard error? What are the factors that affect the width of a confidence interval for mean?
3B. Write a short note on binomial distribution. ((2+3)+5 = 10 marks)
4. What do you mean by randomization in randomised controlled trials (RCTs)? Explain different methods of randomization in RCTs. (1+9 = 10 marks)
- 5A. A hospital administrator wishes to estimate the mean weight of babies born in the hospital. How large a sample of birth records should be taken if the administrator wants a 95% confidence interval with margin error of 1.2 Kg? Assume that a reasonable estimate of the population standard deviation is 5 Kg.
5B. Write a short note on cross sectional study design. (5+5 = 10 marks)
6. Explain the structure of a research thesis. (10 marks)
7. **Write short notes on:**
7A. Chi square test
7B. Survival analysis
7C. Validity of a diagnostic test
7D. One way ANOVA (5×4 = 20 marks)



MANIPAL UNIVERSITY**FIRST YEAR MASTER OF OPTOMETRY DEGREE EXAMINATION – MAY/JUNE 2012****SUBJECT: PAPER – I: ADVANCED CONTACT LENS STUDIES – I**

Thursday, May 31, 2012

Time: 10:00 – 13:00 Hrs.

Maximum Marks: 80

✍ **Attempt questions as instructed. Draw diagrams and flowcharts wherever necessary.**

✍ **Answer the following questions:**

1. A 25 years old female patient wants to wear contact lenses. She is a borderline dry eye patient, a computer professional and has to wear lenses for long duration and is planning to get married in near future. How will you manage this case?
(20 marks)
2. Write a note on corneal topography. Comment on computer assisted topographic analysis system and mention its uses.
(4+4+2 = 10 marks)
3. Comment on correction of astigmatism with contact lenses.
(10 marks)
4. Write in detail about disinfection system for soft contact lenses.
(10 marks)
5. Suppose you are appointed as a Chief Optometrist for a corporate optical outlet, how will you enhance your contact lens practice?
(10 marks)
6. Write note on following contact lenses available in Indian market:
 - 6A. Acuvue 2
 - 6B. Acuvue Clear
 - 6C. Pure vision
 - 6D. HO series
(2½×4 = 10 marks)
7. The spectacle refraction of a myope at a vertex distance of 14 mm was found to be:
OD: -5.00 D Sph-2.00 D Cyl×180°
OS: -4.00 D Sph-1.00 D Cyl×180°
Compute the ocular refraction.
Explain how does accommodation and convergence changes from wearing spectacle to contact lenses?
(5+5 = 10 marks)



MANIPAL UNIVERSITY
FIRST YEAR MASTER OF OPTOMETRY
DEGREE EXAMINATION – DECEMBER 2012

SUBJECT: PAPER V: RESEARCH METHODOLOGY & BIOSTATISTICS

Monday, December 17, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

✍ **Answer ALL the questions.**

1. **Define the following:**

- 1A. P- value
- 1B. Null hypothesis
- 1C. Power
- 1D. Type II error
- 1E. Level of significance

(1×5 = 5 marks)

- 2A. What do you mean by dispersion? Define various measures of dispersion.
- 2B. Define a random sample. Describe the method of cluster sampling with its merits and demerits.

(5+5 = 10 marks)

- 3A. Enumerate the characteristics of normal distribution using a neat diagram.
- 3B. A local health department wishes to estimate the prevalence of malnutrition among children under five years of age in its locality. How many children should be included in the sample so that the prevalence may be estimated to within 4% points of the true value with 95% confidence, if it is known that the true rate is unlikely to exceed 20%?

(5+5 = 10 marks)

- 4A. The following table shows the results of a survey conducted among 300 subjects living in a metropolitan city in India. Each subject were asked which of two policies they favoured with respect to smoking in public places.

Level of education	Policy favoured towards smoking		Total
	No restriction	Allowed in designated areas	
Above Plus Two	26	49	75
Plus Two and below	105	120	225

Does this sample provide sufficient evidence to conclude that there is an association between level of education and attitude towards smoking in public places. (Chi-square with 1 df at 5% level of significance=3.84).

4B. A case-control study was conducted to assess whether use of high fat diet plays a role in the development of cancer. A total of 240 histologically confirmed colorectal cancer cases and 480 disease free controls were enrolled in the study. Among them 60% of the cases and 25% of the controls were exposed to high fat diet. Construct a 2×2 table based on this data. Calculate an appropriate measure to identify the strength of association between high fat diet and risk of colorectal cancer. Interpret the findings.

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

5. Explain randomized controlled trials under the titles design, analysis, merits and demerits.

(10 marks)

6. Outline the format of reporting in scientific journals.

(10 marks)

7. **Write short notes on:**

7A. Analysis of Variance

7B. Logistic regression

7C. Correlation

7D. Mann Whitney U test

7E. Meta-analysis

(5×5 = 25 marks)



MANIPAL UNIVERSITY

FIRST YEAR MASTER OF OPTOMETRY DEGREE EXAMINATION – DECEMBER 2012

SUBJECT: PAPER – I: ADVANCED CONTACT LENS STUDIES – I

Tuesday, December 18, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

✍ Attempt questions as instructed. Draw diagrams and flowcharts wherever necessary.

✍ Answer the following questions:

1. Describe LASIK in detail.
(20 marks)
2. **Short note on:**
 - 2A. Possible modification for RGP contact lens
 - 2B. Soft contact lens manufacturing techniques(5+5 = 10 marks)
3. **Describe:**
 - 3A. Different preservatives used in contact lens care and maintenance system
 - 3B. Tear related deposits(5+5 = 10 marks)
4. Describe silicon hydrogel as a contact lens material and available silicon hydrogel contact lenses in Indian market.
(10 marks)
5. Give a brief out line about how you going to start your own practice in a metropolitan city.
(10 marks)
6. Describe about various diagnostic tests for tear film. List the common causes of dry eye. Mention about lubricating drops and their uses. Describe contact lens option for such cases.
(3+3+3+1 = 10 marks)
7. A 39 years old female patient requests you to fit contact lens. She never wore contact lens before.
Her refraction is OU: -1.50 D Sph (6/6, N₆ @ 33 cm)
You note on slit lamp examination that there are signs of eyelid encrustation and mild epithelial staining on the lower 1/3rd of the cornea. Describe your approach to this case.
(10 marks)

