

**MANIPAL UNIVERSITY**

**SECOND SEMESTER M.Sc. H.H.I.A DEGREE EXAMINATION – JUNE 2012**

**SUBJECT: MHI 606 – EPIDEMIOLOGY AND BIOSTATISTICS  
(COMMON FOR 2009 & 2010 BATCH)**

Friday, June 08, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

✍ **Answer ALL the questions.**

1. Explain using a flowchart how do you conduct and analyse a cohort study to find the association between exposure to a particular chemical fertilizer and goitre. (10 marks)

2. A researcher wants to see if boys and girls begin walking at the same age. She selected random samples of 21 girls and 18 boys. The mean age at which the girls begin walking was 11.9 months with standard deviation 3.4 months and for boys the corresponding numbers were 12.2 and 4 respectively.

- 2A. State null and alternative hypotheses for the question she is trying to answer.
- 2B. What is the test statistic for this problem?
- 2C. Calculate the value of test statistic.
- 2D. What is the degrees of freedom and how do you calculate p value for this problem? (2+2+3+3 = 10 marks)

3A. A special study is conducted to test the hypothesis that people with glaucoma have higher blood pressure than average. In the study, 200 people with glaucoma were recruited and observed that the mean systolic blood pressure was 140 mm Hg and a standard deviation of 25mm Hg. Construct a 95% confidence interval for the true mean systolic blood pressure among people with glaucoma.

3B. A case control study was carried out among swimmers to investigate the possible association between time spend for swimming pool water per week and erosion of dental enamel. The results of the study are summarized in the table below:

Time spend for swimming per week	Erosion of dental enamel		Total
	Yes (cases)	No (controls)	
≥6 hours	32	118	150
<6 hours	17	127	144
Total	49	245	294

Calculate the appropriate measure of strength of association between time spend for swimming per week and dental erosion.

(5+5 = 10 marks)

4. Explain the structure of a research thesis.

(10 marks)

5A. Enumerate the advantages and disadvantages of non-parametric tests compared to parametric tests.

5B. Discuss the situation and requirements for Wilcoxon signed rank test.

(5+5 = 10 marks)

6. **Write short notes on:**

6A. Different measures of dispersion

6B. Sampling and non-sampling errors

6C. Binomial distribution

6D. Sample size calculation for comparing means of two independent groups

6E. Logistic regression

6F. Validity of diagnostic tests

(5×6 = 30 marks)



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**MANIPAL UNIVERSITY**

**SECOND SEMESTER M.Sc. H.H.I.A. DEGREE EXAMINATION – JUNE 2012**

**SUBJECT: PHARMACOLOGY (MHI 602)  
(COMMON FOR 2009 & 2012 BATCH)**

Monday, June 11, 2012

Time: 10:00 – 11:30 Hrs.

Max. Marks: 40

**Answer ALL the questions.**

1. List any two routes of drug administration with an example of each. (2 marks)
  
2. **Define the following terms:**
  - 2A. Biotransformation
  - 2B. Agonist
  - 2C. Synergism(2×3 = 6 marks)
  
3. **List two uses and two adverse effects of following drugs:**
  - 3A. Propranolol
  - 3B. Paracetamol
  - 3C. Tetracycline
  - 3D. Diazepam(2×4 = 8 marks)
  
4. **Explain the pharmacological basis for the following:**
  - 4A. Atropine is used in organophosphorous poisoning.
  - 4B. Salbutamol is used in the bronchial asthma.(2×2 = 4 marks)
  
5. **Mention one drug belonging to the following class and explain its mechanism of action:**
  - 5A. DMARDs
  - 5B. Fluoroquinolones
  - 5C. Anticoagulants(2×3 = 6 marks)
  
6. Write short note on digoxin. (3 marks)

7. **Mention two drugs belonging to the following class:**

- 7A. Alpha blockers
- 7B. Antifungal agents
- 7C. Penicillins
- 7D. Anti psychotics
- 7E. ACE inhibitors

(1×5 = 5 marks)

8. **Mention two drugs used in the following conditions:**

- 8A. Parkinsonism
- 8B. Diabetes
- 8C. Vomiting
- 8D. Tuberculosis
- 8E. Angina pectoris
- 8F. Hypertension

(1×6 = 6 marks)





**MANIPAL UNIVERSITY****SECOND SEMESTER M.Sc. H.H.I.A. DEGREE EXAMINATION – JUNE 2012****SUBJECT: PHARMACOLOGY (MHI 602)  
(COMMON FOR 2009 & 2012 BATCH)**

Monday, June 11, 2012

Time: 10:00 – 11:30 Hrs.

Max. Marks: 40

**Answer ALL the questions.**

1. List any two routes of drug administration with an example of each.  
(2 marks)
  
2. **Define the following terms:**
  - 2A. Biotransformation
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- 8E. Angina pectoris
- 8F. Hypertension

(1×6 = 6 marks)



# MANIPAL UNIVERSITY

## SECOND SEMESTER M.Sc. H.H.I.A. DEGREE EXAMINATION – JUNE 2012

### SUBJECT: MEDICAL TERMINOLOGY – II (MHI 604) (COMMON FOR BOTH 2009 & 2010 BATCH AND NEW REGULATION)

Wednesday, June 13, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

☞ Answer ALL the questions.

**1. Write down the correct explanation for following medical terms:**

- |               |                   |                 |                |
|---------------|-------------------|-----------------|----------------|
| a) Pyrophobia | b) Chondrosarcoma | c) Cytokines    | d) Petrositis  |
| e) Monokines  | f) Ectropion      | g) Endarteritis | h) Sociophobia |
| i) Vitiligo   | j) Fibrosarcoma   |                 |                |

(1×10 = 10 marks)

**2. Write down the correct expansion for following abbreviations:**

- |         |         |         |        |
|---------|---------|---------|--------|
| a) AFP  | b) TLC  | c) DSA  | d) RSV |
| e) TBG  | f) BSA  | g) GH   | h) CML |
| i) VUR  | j) ERCP | k) ICCU | l) MEN |
| m) PAVP | n) RBC  | o) URTI |        |

(1×15 = 15 marks)

**3. Write short notes on:**

- |                       |                     |                 |
|-----------------------|---------------------|-----------------|
| a) Histocompatibility | b) Hodgkin Lymphoma | c) Polycythemia |
| d) Placenta previa    | e) Myopia           | f) Pemphigus    |
| g) Mumps              | h) Beriberi         | i) Autism       |
| j) Acromegaly         |                     |                 |

(2½×10 = 25 marks)

**4. Answer the following:**

- 4A. Write down the etiology and clinical features of GB Syndrome.
- 4B. Discuss in detail about any TWO infectious disease caused by bacteria.
- 4C. Briefly explain about etiology, clinical features and complications of Diabetes Mellitus.
- 4D. What is Abortion? Briefly explain about various kinds of abortions.
- 4E. Distinguish between the clinical features of Lichen planus and Verruca Vulgaris.

(6×5 = 30 marks)





**MANIPAL UNIVERSITY****SECOND SEMESTER M.Sc. H.H.I.A. DEGREE EXAMINATION – JUNE 2012****SUBJECT: HEALTH INFORMATICS (MHI 610)  
(COMMON FOR 2009 & 2010 BATCH AND NEW REGULATION)**

Friday, June 15, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

**Answer ALL the questions.**

1. Define the term health informatics. List of tools of health informatics. Explain briefly on system theory with suitable examples.  
(1+2+7 = 10 marks)
2. Discuss on various sections of health information department with suitable example.  
(10 marks)
3. Discuss on various information and communication technology application used for the communication between healthcare providers, managers and patient.  
(10 marks)
4. What is eHealth? Mention the various application of eHealth. How eHealth Application helps the healthcare providers in quality decision making?  
(1+3+6 = 10 marks)
5. Explain briefly on health informatics standards for clinical data representation, content and structure and telecommunication.  
(10 marks)
6. Discuss on changes in professional practice and management roles due to advances in healthcare informatics.  
(10 marks)
7. **Write short notes on:**
  - 7A. Nine trends to predict the development of healthcare informatics
  - 7B. Dimension of performance for the protection of health information
  - 7C. Health information literacy
  - 7D. Development of healthcare informatics between 1800-1900  
(5 × 4 = 20 marks)





**MANIPAL UNIVERSITY****SECOND SEMESTER M.Sc. H.H.I.A. DEGREE EXAMINATION – JUNE 2012****SUBJECT: HEALTH INFORMATICS (MHI 610)  
(COMMON FOR 2009 & 2010 BATCH AND NEW REGULATION)**

Friday, June 15, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

**✍ Answer ALL the questions.**

1. Define the term health informatics. List of tools of health informatics. Explain briefly on system theory with suitable examples.  
(1+2+7 = 10 marks)
2. Discuss on various sections of health information department with suitable example.  
(10 marks)
3. Discuss on various information and communication technology application used for the communication between healthcare providers, managers and patient.  
(10 marks)
4. What is eHealth? Mention the various application of eHealth. How eHealth Application helps the healthcare providers in quality decision making?  
(1+3+6 = 10 marks)
5. Explain briefly on health informatics standards for clinical data representation, content and structure and telecommunication.  
(10 marks)
6. Discuss on changes in professional practice and management roles due to advances in healthcare informatics.  
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7. **Write short notes on:**
  - 7A. Nine trends to predict the development of healthcare informatics
  - 7B. Dimension of performance for the protection of health information
  - 7C. Health information literacy
  - 7D. Development of healthcare informatics between 1800-1900  
(5×4 = 20 marks)



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## MANIPAL UNIVERSITY

SECOND SEMESTER M.Sc. H.H.I.A. DEGREE EXAMINATION – JUNE 2012

SUBJECT: MHI 608 – HOSPITAL ADMINISTRATION

Monday, June 18, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

☞ Answer ALL the questions.

### 1. Long Essays:

1A. Define the Medical Record. Write briefly on the various policies and procedures followed in the Medical Record Department. Add a note on the functions of the MRD.

(22 marks)

1B. Define Biomedical Waste. Write briefly on the available guidelines/law for proper disposal of Hospital waste.

(22 marks)

### 2. Short Notes:

2A. Role and functions of Infection Control Committee

2B. Barrier Nursing

2C. Drugs and therapeutic committee

(12×3 = 36 marks)



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## MANIPAL UNIVERSITY

SECOND SEMESTER M.Sc. H.H.I.A. DEGREE EXAMINATION – DECEMBER 2012

SUBJECT: PHARMACOLOGY  
(OLD REGULATION)

Monday, December 17, 2012

Time: 10:00 – 11:30 Hrs.

Max. Marks: 40

✍ Answer ALL the questions.

1. Describe the pharmacological basis for the following:

- 1A. Omeprazole is used for peptic ulcer
- 1B. Salbutamol is used to terminate attack of bronchial asthma
- 1C. Glyceryl trinitrate is used to terminate acute angina attack
- 1D. Morphine is used to treat post-operative pain

(2×4 = 8 marks)

2. Mention two drugs belonging to following category:

- 2A. Antipsychotic
- 2B. Angiotensin converting Enzyme inhibitors
- 2C. Inhalational general anesthetics
- 2D. Peripherally acting skeletal muscle relaxants

(1×4 = 4 marks)

3. Write short notes on the following:

- 3A. Parts of prescription
- 3B. Aminoglycosides
- 3C. Non receptor mediated actions of drugs

(3×3 = 9 marks)

4. Define the following terms:

- 4A. Bioavailability
- 4B. Pharmacodynamics

(2×2 = 4 marks)

5. Describe the mechanism of action of the following class of drugs and list two uses of each of them:

- 5A. Local anesthetics
- 5B. Non-steroidal anti-inflammatory drugs
- 5C. Beta lactam antibiotics

(2×3 = 6 marks)



6. Name two corticosteroid preparations, mention two therapeutic uses and list two adverse effects.

(3 marks)

7. Write two drugs used in the treatment of following conditions:

- 7A. Fungal infection
- 7B. Diabetes mellitus
- 7C. Intestinal worm infestation

(1×3 = 3 marks)

8. Write the meaning of the following abbreviations:

- 8A. TDS
- 8B. SOS
- 8C. PO

(1×3 = 3 marks)



# MANIPAL UNIVERSITY

**SECOND SEMESTER M.Sc. H.H.I.A. DEGREE EXAMINATION – DECEMBER 2012**

**SUBJECT: MEDICAL TERMINOLOGY – II  
(OLD REGULATION)**

Tuesday, December 18, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

☞ **Answer ALL the questions.**

**1. Write down the correct explanation for following medical terms:**

- |                    |                |               |
|--------------------|----------------|---------------|
| 1A. Myoma          | 1B. Antigen    | 1C. Carcinoma |
| 1D. Hypothyroidism | 1E. Gynephobia | 1F. Eczema    |
| 1G. Tubercle       | 1H. Dystocia   | 1I. Syncope   |
| 1J. Algophobia     |                |               |

(1×10 = 10 marks)

**2. Write down the correct expansion for following abbreviations:**

- |           |          |          |
|-----------|----------|----------|
| 2A. HAART | 2B. DHS  | 2C. GTT  |
| 2D. CEA   | 2E. OPV  | 2F. MNG  |
| 2G. KUB   | 2H. HDL  | 2I. ORIF |
| 2J. FSGS  | 2K. NREM | 2L. VSD  |
| 2M. BPH   | 2N. MHC  | 2O. ESR  |

(1×15 = 15 marks)

**3. Write short notes on:**

- |                |                  |                      |
|----------------|------------------|----------------------|
| 3A. Melanoma   | 3B. Alkaptonuria | 3C. Cor-pulmonale    |
| 3D. Scurvy     | 3E. Meningitis   | 3F. Tetanus          |
| 3G. Botulism   | 3H. Alopecia     | 3I. Puerperal Sepsis |
| 3J. Thrombosis |                  |                      |

(2 ½×10 = 25 marks)

**4. Answer the following:**

- 4A. Write down in detail about clinical features and management of Syphilis.
- 4B. What is Obsessive Compulsive Disorder? Discuss about important clinical aspects of Obsessive Compulsive Disorder.
- 4C. What is Renal Tubular Acidosis? Give an account of Renal Tubular Acidosis.
- 4D. Discuss in detail about etiology and important clinical features of Myocardial Infraction.
- 4E. Distinguish between clinical features of Addison's and Cushing's disease.

(6×5 = 30 marks)



**MANIPAL UNIVERSITY****SECOND SEMESTER M.Sc. H.H.I.A DEGREE EXAMINATION – DECEMBER 2012****SUBJECT: MHI 606 – EPIDEMIOLOGY AND BIostatISTICS  
(OLD REGULATION)**

Wednesday, December 19, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

**Answer ALL the questions.**

1A. Define different measures of central tendency and mention the situations where each of these measures are appropriate.

1B. Differentiate between stratified and quota sampling methods.

(5+5 = 10 marks)

2A. A sample of 100 apparently normal, 30 years old, adult males had a mean systolic blood pressure of 124 mmHg. It is believed that the population standard deviation is 12 mmHg. Construct 95% confidence interval for population mean and interpret it.

2B. Briefly discuss the test used for comparison of equality of population means of three independent groups.

(5+5 = 10 marks)

3A. What do you mean by parametric tests? State the advantages of parametric tests over the non-parametric tests.

3B. The following table shows the results of the 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)

(5+5 = 10 marks)



- 4A. Explain binomial distribution with the help of an example.
- 4B. A local health department wishes to estimate the prevalence of anaemia among children under ten years of age in a rural area. How many children should be included in the sample so that the prevalence may be estimated to within 8% points of the true value with 95% confidence, if it is known that the true rate is unlikely to exceed 30%?

(5+5 = 10 marks)

5. Explain case-control study under the titles design, analysis, merits and demerits.

(10 marks)]

6. Briefly discuss the structure of a research report.

(10 marks)

7. **Write short notes on:**

7A. Systematic Reviews

7B. Mann-Whitney U test

7C. Survival Analysis

7D. Regression Analysis

(5×4 = 20 marks)



Level of education	Policy favoured towards smoking		Total
	No restriction	Allowed in designated areas	
Above Plus Two	30	40	70
Plus Two and below	105	120	225

**MANIPAL UNIVERSITY****SECOND SEMESTER M.Sc. H.H.I.A. DEGREE EXAMINATION – DECEMBER 2012****SUBJECT: HEALTH INFORMATICS (MHI 610)  
(OLD REGULATION)**

Thursday, December 20, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 80

**✍ Answer ALL the questions.**

1. What is health informatics? Write the applications of health informatics. Explain briefly on information theory with suitable example.  
(1+3+6 = 10 marks)
2. Draw a flowchart to show the organizational hierarchy of health information department. Enumerate the role and responsibility of each involves in the management of health information system.  
(3+7 = 10 marks)
3. Write in detail about the identifier and telecommunication standard of healthcare informatics.  
(10 marks)
4. Discuss on changes in professional practice and management role due to advances in healthcare informatics.  
(10 marks)
5. What is eHealth? What are the various strategies involved in successful implementation of eHealth applications?  
(1+9 = 10 marks)
6. Discuss on planning of health information system in a hospital setup.  
(10 marks)
7. **Write short notes on:**
  - 7A. Advantage of electronic health records over paper based record
  - 7B. Development of healthcare informatics during 1990s
  - 7C. Legal implication in protection of health information
  - 7D. Approach for predicting future of healthcare informatics(5×4 = 20 marks)

