



Bioinformatics Institute of India

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Proficiency Program in Medical & Healthcare Informatics



Examination Assignments

April, 2017



Instructions for Examination Assignments – April, 2017

- Electronic (email), printed and hand written submission of the assignments are acceptable.
- Do not copy from the answers of other participants. If it is noticed the assignment of such participants will not be accepted.
- The assignment for each paper should be written separately. Do not write the assignment for all the papers in continuity. However, all the assignments are to be submitted together.
- No two or more participants should submit their assignments in same envelope.
- The participants should mention their Name and Enrollment Number on each page of submitted assignment copy.
- The last date of submission of Assignments is **30th April, 2017**.
- The assignments have to be submitted to:
**The Program Director
Bioinformatics Institute of India
H-109, Ground Floor, Sector-63, (Behind Haldiram) Noida-201307
U.P. INDIA**
- Participants are advised to keep a photocopy of submitted assignments.
- The participants should mention their Name and Enrollment Number on the envelope.
- The participant should also mention “Examination Assignment” at the top of the envelope.
- The result will be announced by 2nd week of June, 2017.
- For any query mail us on info@bii.in



Module 1: Introduction to Medical Informatics
Examination Assignment April, 2017

Max. Marks: 100

Instructions:

- SECTION-A: Attempt any five questions.
- SECTION-B: Attempt any five questions.

SECTION-A

Short answer type questions: (60-80 Words)

5 × 5 = 25 Marks

1. Discuss Bits and Bytes.
2. Define WWW and disk drive.
3. Define Medical information management. What is the aim of MIM?
4. What are the possible penetrations of our system from viruses?
5. Define LAN and OPAL.
6. Explain "Paradigmatic shift in health care".
7. What is the application of biomedical informatics?

SECTION B

Long Answer type questions: (250-300 Words)

5 × 15 = 75 Marks

1. What are the characteristics of Medical information?
2. Information technology plays a major role in medical science. Justify.
3. Discuss Clinical information sciences.
4. Discuss Medical informatics: Problems and Misuses.
5. Describe various sources of medical information.
6. What are the types of information system in a health care environment?
7. State the different types of Computer-Aided Learning in Medical Education.



Module 2: Healthcare Organization and Management
Examination Assignment April, 2017

Max. Marks: 100

Instructions:

- SECTION-A: Attempt any five questions.
- SECTION-B: Attempt any five questions.

SECTION-A

Short answer type questions: (60-80 Words)

5 × 5 = 25 Marks

1. Define primary health care.
2. Discuss National AIDS control programme.
3. What are the Anti adult measures to control malaria?
4. What are the components of a Hospital system?
5. Explain Minimum Needs Programme (MNP)
6. What are the four dominations in a hospital organization?
7. Draw the relationship between studies, data , health policy and improved health outcomes

SECTION-B

Long Answer type questions: (250-300 Words)

5 × 15 = 75 Marks

1. What are the basic elements of management?
2. What are pain relieving drugs? Explain with examples.
3. Discuss National Tuberculosis control programme.
4. Explain PERT in detail.
5. What are the advantages of organizational chart?
6. Define Delegation. What are the principles and steps in delegation?
7. Do you think National family welfare programme has been as successful as it must have been? Discuss.

Module 3: Hospital and Clinical Information Systems

Examination Assignment April, 2017

Max. Marks: 100

Instructions:

- SECTION-A: Attempt any five questions.
- SECTION-B: Attempt any five questions.

SECTION-A

Short answer type questions: (60-80 Words)

5 × 5 = 25 Marks

1. Define Medical decision making.
2. Explain diagnostic therapeutic cycle.
3. Differentiate the three types of hospital management.
4. Draw the relations between the two primary processes in hospitals.
5. Differentiate terminals and workstations, of hospital information system.
6. Draw and explain process of decision making.
7. What are the death rates of patients?

SECTION-B

Long Answer type questions: (250-300 Words)

5 × 15 = 75 Marks

1. What are the characteristics of an effective record management?
2. Give an account on problems and remedies of Hospital Record Management. State the significance of record keeping in hospitals.
3. What is the significance of hospital record keeping?
4. What do you mean by data retrieval and diagnostic therapeutic cycle.
5. Explain decision support models and outpatient services.
6. Define Nursing informatics. Why it is required. What is the impact of nursing informatics? Explain HIS for nurses.
7. Explain different integration aspects that must be taken into account when introducing a new application system into HIS.



Module 4: Telemedicine

Examination Assignment April, 2017

Max. Marks: 100

Instructions:

- SECTION-A: Attempt any five questions.
- SECTION-B: Attempt any five questions.

SECTION-A

Short answer type questions: (60-80 Words)

5 × 5 = 25 Marks

1. What is bandwidth?
2. Discuss the Tele-ophthalmology in data/ text and image transfer.
3. Define ATM.
4. Discuss Tele-ENT and Tele-oncology.
5. What are the steps in a pre- recorded telemedicine system?
6. Define Tele-consultation.
7. Explain the uses of telemedicine.

SECTION-B

Long Answer type questions: (250-300 Words)

5 × 15 = 75 Marks

1. What are the essential components of telemedicine system?
2. What is the difference between telemedicine regulation and telemedicine consultation?
3. Discuss the benefits of telemedicine in improved access to information.
4. What are the barriers to telemedicine implementation?
5. Tele health is the integration of the Technology and Telecommunications. Justify the statement.
6. Discuss the seven core principles of successfully developing a telemedicine system.
7. Define the following:
 - a) Telepathology
 - b) Digital ID card?



**Module 5: Biomedical Engineering
Examination Assignment April, 2017**

Max. Marks: 75

Instructions:

- SECTION-A: Attempt any five questions.
- SECTION-B: Attempt any five questions.

SECTION-A

Short answer type questions: (60-80 Words)

5 × 5 = 25 Marks

1. Explain analog to digital conversion of biosignals.
2. Define Gamma camera.
3. Discuss the processing steps in image processing with diagrammatic representation
4. What are the various discipline of biomedical engineering?
5. What the third type of biomedical engineer called? Discuss its role.
6. Define Biosignals. What are the characteristics of biosignals?
7. Define Bioacoustic signals.

SECTION-B

Long Answer type questions: (250-300 Words)

5 × 15 = 75 Marks

1. Discuss Doppler effect.
2. Write short notes on:
 - a) Analog-to-Digital Conversion
 - b) Nuclear medicine
3. Define Biomedical Engineering. Write a detailed note on scope of Biomedical Engineering.
4. What is the aim of biosignal processing? What are the stages of biosignal processing?
5. What are Deterministic waveforms and stochastic waveforms?
6. Draw a classification table for biomedical signals.
7. Discuss the principle of MRI.