

17. (a) Explain molecular modeling in drug discovery.

Or

(b) Explain in detail the impact of SAR/QSAR studies to the 3D modeler.

18. (a) Discuss in detail the methods of molecular mechanics.

Or

(b) Explain simulations for conformational analysis of molecules.

19. (a) Write a detail account on enzyme inhibitors in pharmaceutical field.

Or

(b) Give an account on empirical representation of molecular energies.

20. (a) Write an essay on QSAR studies.

Or

(b) Explain in detail the methods of minimizing energy for small molecules.

Reg. No. :

D 1736

Q.P. Code : [02 DPGDB 06]

(For the candidates admitted from 2002 to 2004 calendar year)

P.G. DIPLOMA IN BIOINFORMATICS
EXAMINATION, NOV 2010

Second Semester

**MOLECULAR MODELLING AND COMPUTER
AIDED DRUG DESIGN**

Time : Three hours

Maximum : 100 marks

Write legibly.

Draw diagrams wherever necessary

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

Define/Comment on :

1. Force field.
2. Lead optimization.
3. Energy minimization.

4. Competitive inhibition.
5. Docking.
6. 3D pharmacophore.
7. Denovo design.
8. Energy levels.
9. SAR.
10. Pharmacokinetics.

PART B — (5 × 6 = 30 marks)

Answer ALL questions.

11. (a) Write short notes on designing of ligands.
Or
(b) Give an account on this drugs that rescue P⁵³ mutants.
12. (a) What is enzyme inhibition? Explain briefly the types of enzyme inhibition.
Or
(b) Give short notes on drug-receptor interaction.

13. (a) Explain briefly 3D database searching.
Or
(b) Write short notes on computer Aided drug design.
14. (a) Write short notes on pharmacophore.
Or
(b) Discuss global energy minima.
15. (a) Give an account on internal energy.

Or

- (b) Explain the scoring functions of molecular docking.

PART C — (5 × 10 = 50 marks)

Answer ALL questions.

16. (a) Discuss in detail the significance of pharmacophore identification and novel drug design.
Or
(b) Explain in detail the simulation of Monte Carlo method.

24. (a) Explain the types of data model.

Or

(b) Comment on (i) abstraction (ii) entity and tuple (iii) E-R model (iv) instances and schemes.

25. (a) How oracle commands are classified? Explain it with an example.

Or

(b) Discuss about PL/SQL architecture.

Reg. No. :

D 190

Q.P. Code : [04 DPGDB 03]

(For the candidates admitted during 2004 and 2005
Calendar Year)

P.G. DIPLOMA EXAMINATION, DECEMBER 2007.

First Semester

Bioinformatics

FUNDAMENTALS OF INFORMATION
TECHNOLOGY

Time : Three hours

Maximum : 75 marks

Answer ALL questions.

SECTION A — (15 × 1 = 15 marks)

1. What is meant by software?
2. PERL stands for _____.
3. Define DBMS.
4. What is meant by virtual reality?
5. Give the use of Gopher.
6. Write any two multimedia tools.
7. What is E-commerce?

8. State any two application of IT.
9. Define data mining.
10. Give an example for distributed database processing.
11. Define attribute.
12. Write the purpose of Data model.
13. What is meant by Package?
14. Define Normalization.
15. What is the use of ROWNUM?

SECTION B — (5 × 4 = 20 marks)

16. (a) Explain briefly about distributed system.
Or
(b) Write the features and trends of software.
17. (a) Compare Internet and Intranet.
Or
(b) Cite the history of HTML.
18. (a) What is meant by GIS? Explain.
Or
(b) Briefly note on Data warehouse.

19. (a) Explain Data abstraction with an example.

Or

- (b) Note on distributed database processing.

20. (a) Brief note on RDBMS and ORDBMS.

Or

- (b) Explain union and intersect operator with example.

SECTION C — (5 × 8 = 40 marks)

21. (a) Write in detail about the types of network.

Or

- (b) What is DBMS? Write the features and advantages of DBMS.

22. (a) Explain (i) E-Mail (ii) WAIS (iii) Gopher (iv) WWW (v) IE.

Or

- (b) Write a note on Virtual Reality and Morphing.

23. (a) Explain in detail about E-Commerce and its types.

Or

- (b) Write in detail about the application of IT.

23. (a) Explain string and date function.

Or

(b) Write a note on Join operators.

24. (a) Explain control structures in VB.

Or

(b) Write short notes on :

(i) Test Box

(ii) Label

(iii) Command button.

25. (a) Explain DAO in detail.

Or

(b) Write short notes on :

(i) Timer control

(ii) Drive list box.

Reg. No. :

D 1141 *

Q.P. Code : [04 DPGDB 07]

(For the candidates admitted from
2004 to 2007 calendar year)

P.G. DIPLOMA IN BIOINFORMATICS
EXAMINATION, DECEMBER 2010.

Second Semester

INTRODUCTION TO DATABASE SYSTEMS

Time : Three hours

Maximum : 75 marks

Answer ALL questions.

SECTION A — (15 × 1 = 15 marks)

1. What are the levels of Data abstraction?
2. Define physical level.
3. Define schema.
4. DDL stands for _____
5. Query with a query is _____
6. Define constraints.
7. Name the types of Join operator.

8. ROBMS stands for _____
9. What are the three types of combo boxes?
10. Name the types of array available in VB.
11. Define client / server architecture.
12. What is the use of Lasel button?
13. Define control.
14. _____, _____ and _____ are the three types of control available in VB.
15. Define variable.

SECTION B — (5 × 4 = 20 marks)

16. (a) State the advantages of distributed system.

Or

- (b) Compare hierarchical and network model.

17. (a) Discuss the salient features of DDL.

Or

- (b) Write a note on normal forms.

18. (a) Explain single row subqueries.
- Or
- (b) Write a simple PL/SQL program to print the world "Hello world".
19. (a) Write short notes on Array.
- Or
- (b) Explain datatypes in VB.
20. (a) Write short notes on Do-while loops.
- Or
- (b) Write a VB code to display current date and time.

SECTION C — (5 × 8 = 40 marks)

21. (a) What is Data Abstraction? Explain its levels with examples.

Or

- (b) Explain Data models.

22. (a) Write an elaborate note on second normal form (2NF).

Or

- (b) Discuss constraints.

Reg. No. :

D 1143

Q.P. Code : [07 DPGDB 01]

(For the candidates admitted from 2007 onwards)

P.G. DEGREE EXAMINATION, DECEMBER 2010.

FUNDAMENTALS OF BIOLOGICAL SYSTEMS

Time : Three hours

Maximum : 100 marks

Draw neat labeled sketches wherever necessary.

Answer any FIVE questions.

(5 × 20 = 100)

1. (a) Explain the mechanism of sodium potassium pump.
(b) Critically analyze the role of endocytosis and exocytosis. (10 + 10)
2. (a) Differentiate between prokaryotic cell and eukaryotic cell.
(b) Discuss the structure and functions of endoplasmic reticulum. (10 + 10)
3. (a) Summarize the role of membrane proteins.
(b) Give an account on regulation of protein kinase in cell signaling. (10 + 10)

4. Discuss the events of meiosis. (20)
5. (a) Bringout the classification of carbohydrates.
(b) Describe the structure of proteins. (10 + 10)
6. (a) Write an account on β oxidation of fatty acids.
(b) Give a note on *de novo* pathway. (10 + 10)
7. (a) Describe TCA cycle. (10 + 10)
(b) Explain pentose phosphate pathway.
8. (a) Write notes on transamination and deamination.
(b) Elucidate urea cycle. (10 + 10)

Reg. No. :

D 1144

Q.P. Code : [07 DPGDB 02]

(For the candidates admitted from 2007 onwards)

P.G. DIPLOMA IN BIOINFORMATICS
EXAMINATION, DECEMBER 2010.

COMPUTATIONAL METHODS FOR SEQUENCE
ANALYSIS

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

1. Give a detailed account on classification of biological database.
2. Discuss about data retrieval from Entrez and SRS.
3. Discuss the methods of multiple sequence alignment.
4. Elaborate on dynamic programming.
5. Explain the various clustering methods used for phylogenetic tree construction.
6. Elaborate on methods of gene prediction.

7. Discuss the concept of secondary structure prediction of RNA and protein.
8. Explain "Restriction Mapping".

Reg. No. :

D 1145

Q.P. Code : [07 DPGDB 03]

(For the candidates admitted from 2007 onwards)

P.G. DIPLOMA IN BIOINFORMATICS
EXAMINATION, DECEMBER 2010.

PROGRAMMING FOR BIOINFORMATICS

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

(5 × 20 = 100)

1. Write short on the following :

(a) operators

(b) if...else – control flow in C programming.

2. Discuss the functions in C++.

3. Write a note on the operators used for pattern manipulation and regular expression.

4. Write an account on standard array functions in Perl.

5. Elaborately discuss the modules in Bioperl with reference to Biotools.

6. Discuss the following :

(a) python library

(b) globbing.

7. Write notes on :

(a) decision and looping statement

(b) flashes in C programming.

8. Comment on the various advantages and disadvantages of the control statements in PERL.

Reg. No. :

D 1146

Q.P. Code : [07 DPGDB 04]

(For the candidates admitted from 2007 onwards)

P.G. DIPLOMA IN BIOINFORMATICS
EXAMINATION, DECEMBER 2010.

GENOMICS AND PROTEOMICS

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. Give a detailed account on genome, genome sequencing and types of genome maps.
2. Give an account on various genome map repositories.
3. Describe the anatomy of the eukaryotic genome and the features of metaphase chromosomes.
4. Write notes on the following :
 - (a) RNA content of the cell. (10)
 - (b) Yeast and human transcriptions. (10)

5. Describe the various approaches in gene prediction.
6. Explain the promotor sequence prediction and analysis of human genome.
7. Give a comparative analysis of model organisms used in genome project research.
8. Describe the EST databases and their role in functional genomics.

Reg. No. :

D 1147

Q.P. Code : [07 DPGMB 01]

(For the candidates admitted from 2007 onwards)

P.G. DIPLOMA IN MICROBIAL BIOTECHNOLOGY
EXAMINATION, DECEMBER 2010.

FUNDAMENTALS OF MICROBIOLOGY

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. Discuss the application of G+C analysis and DNA-DNA hybridization microbial taxonomy.
2. Comment on the following prokaryotic structure.
 - (a) Cell wall
 - (b) ribosomes 70s
 - (c) flagella
 - (d) nucleus.
3. Compare the aerobic and anaerobic growth with respect to energy yield, substrate utilization and product formation.

4. Write critical notes on :

- (a) plasmids
- (b) transposons
- (c) asexual spores of fungi
- (d) Neurospora.

5. What are the major and minor nutrients required by microorganisms? Explain their physiological role.

6. Discuss the influence of temperature, pH and pressure on microorganisms.

7. Describe microbial strain improvement methods with suitable examples.

8. Write short notes on:

- (a) negative staining
- (b) pasteurizers
- (c) selective media
- (d) yeast inoculum development.

Reg. No. :

D 1148

Q.P. Code : [07 DPGMB 02]

(For the candidates admitted from 2007 onwards)

P.G. DIPLOMA IN MICROBIAL BIOTECHNOLOGY
EXAMINATION, DECEMBER 2010.

GENETIC ENGINEERING

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. Discuss the role of m-RNA, t-RNA and ribosomes in translation.
2. Describe the four major steps in cloning strategy with illustrations.
3. Write short notes on :
 - (a) Animal viral vectors
 - (b) Plasmids
 - (c) Plasmid vector p^{BR 322}
 - (d) Selection of clones.
4. Discuss the principle and application of Northern blotting technique.

5. Discuss molecular mapping of genome and draw the genetic map of E. Coli.
6. Discuss in detail cloning in animals to develop transgenic animals.
7. Explain application of genetic engineering in crop improvement.
8. Discuss the ethical and socio-economic aspects of genetic engineering.

Reg. No. :

D 1149

Q.P. Code : [07 DPGMB 03]

(For the candidates admitted from 2007 onwards)

**P.G. DIPLOMA IN MICROBIAL BIOTECHNOLOGY
EXAMINATION, DECEMBER 2010.**

BIOPROCESS TECHNOLOGY

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

(5 × 20 = 100)

All questions carry equal marks.

1. Discuss the design and construction of bioreactors for industrial microbial products.
2. Discuss adoption of continuous culture for the commercial production of metabolites.
3. Explain the application of membrane separation in purification of products.
4. Describe write making with the help of a flow chart.

5. Write critical notes on :

- (a) Brewing
- (b) Nisin
- (c) Lactic acid
- (d) Glutamic acid.

6. List out various antibiotics, organisms producing and their applications. Describe the industrial production of streptomycin.

7. Write a detailed account on use of tricking filter in waste water treatment.

8. Write an essay on vermiculture and vermicompositing.

Reg. No. :

D 1150

Q.P. Code : [07 DPGMB 04]

(For the candidates admitted from 2007 onwards)

P.G. DIPLOMA IN MICROBIAL BIOTECHNOLOGY
EXAMINATION, DECEMBER 2010.

CLINICAL MICROBIOLOGY

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. Write a detailed account on immunoglobulin classes and their function.
2. Discuss the mechanism of various immunodeficiency diseases.
3. Give an account on symptoms and treatment of skin infection.
4. Discuss the two concepts of epidemiologic studies – incidence and prevalence of disease.
5. Discuss the mechanism of drug resistance in microorganisms.

6. Discuss the principle and application of PCR in disease detection.
7. Describe the mechanisms involved in immunoprophylaxis of cancer.
8. Define insect vectors. Write on biocontrol of mosquito and diseases transmitted by mosquito.

Reg. No. :

D 1151

Q.P. Code : [07 DPDIB 01]

(For the candidates admitted from 2007 onwards)

P.G. DIPLOMA IN INTERNATIONAL BUSINESS
EXAMINATION, DECEMBER 2010.

FUNDAMENTAL OF INTERNATIONAL TRADE

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. Briefly explain the growing relevance of globalisation.
2. Briefly enumerate on commodity agreements.
3. What do you mean by Terms of Trade?
4. Briefly explain the impact of Tariff.
5. Briefly explain the role of MNC's.
6. Briefly bring out the demerits of MNC's.

7. Briefly explain the drivers and retrainers of globalisation.
8. Briefly enumerate on the different strategies of globalisation.

Reg. No. :

D 1152

Q.P. Code : [07 DPDIB 02]

(For the candidates admitted from 2007 onwards)

P.G. DIPLOMA IN INTERNATIONAL BUSINESS
EXAMINATION, DECEMBER 2010.

EXPORT AND IMPORT PROCEDURES

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. What are deemed exports? Explain the norms and benefits of deemed exports.
2. Discuss the procedure for registration of exporters how do they obtain export license.
3. Analyse the meaning of export and customs clearance. Also list out the role of clearing and forwarding agents.
4. Bring out the different types of import licensing. What are the norms for capital goods importing in India?

5. What is meant by retirement of import documents? List the RBI's directives for import payment.
6. Enumerate the rules for successful exporting. Analyse whether Indian exporters are successful in all aspects.
7. Write short notes on :
 - (a) Export financing
 - (b) Marine insurance
 - (c) Replenishment licensing
 - (d) Import and export pass book.
8. Explain the process of the following :
 - (a) Packing goods for exports
 - (b) Marketing goods for exports.

Reg. No. :

D 1153

Q.P. Code : [07 DPDIB 03]

(For the candidates admitted from 2007 onwards)

P.G. DIPLOMA IN INTERNATIONAL BUSINESS
EXAMINATION, DECEMBER 2010.

FINANCING OF FOREIGN TRADE

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. What are the objectives of a export financing?
Write the terms of international payments.
2. Elaborately explain the various sources available for financing export credit needs with their limitations.
3. What are the needs for pre-shipment finance?
Explain the various facilities available for pre-shipment finance.
4. Discuss the provision of foreign exchange for import of raw materials and consumer goods.

5. Bringout the needs for import finance. Also provide the various payment methods for imports.
6. How is the long term finance provided? Explain the application procedure for long term finance. Also analyse the conditions for approval of long term finance.
7. Discuss in detail the role and functioning of ECGC in foreign trade financing.
8. List and explain the financial assistances provided by development and commercial banks.

Reg. No. :

D 1154

Q.P. Code : [07 DPDIB 04]

(For the candidates admitted from 2007 onwards)

P.G. DIPLOMA IN INTERNATIONAL BUSINESS
EXAMINATION, DECEMBER 2010.

LOGISTICS MANAGEMENT

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. What is an international logistics system? Bringout the elements of international logistics system.
2. Explain the scope and relevance of logistics to export management.
3. Elaborate the general structure of shipping industry with its operating system.
4. What do you understand by chartering? List and explain the various chartering principles.
5. Analyse the shipping infrastructure of India with the list of major and minor ports.

6. What are the issues governing shipping in India? Explain the role of shipping ministry to manage the issues.
7. What is containerization? Explain the types and benefits of container operations.
8. Write short notes on the following :
 - (a) Air cargo
 - (b) Advantages of international air transport
 - (c) Tariff structure of air cargo
 - (d) IATA.

Reg. No. :

D 1155

Q.P. Code : [07 DPDIB 05]

(For the candidates admitted from 2007 onwards)

P.G. DIPLOMA IN INTERNATIONAL BUSINESS
EXAMINATION, DECEMBER 2010.

FOREIGN EXCHANGE MANAGEMENT

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. Explain the objectives of exchange control.
2. Explain exchange rate mechanism.
3. Explain need for exchange rate forecasts and write shortly the problem is exchange rate forecast.
4. Explain salient features of futures contract.
5. Explain the destructive features of foreign exchange market.

6. Distinguish between
 - (a) Call option and Put option.
 - (b) American Option and European Option.
7. Write a brief note on administration of foreign exchange in India.
8. Explain the role of banks in foreign trade and function of foreign exchange department.

Reg. No. :

D 1156

Q.P. Code : [07 DPDEM 01]

(For the candidates admitted from 2007 onwards)

^{Export}
P.G. DIPLOMA IN MANAGEMENT ~~EXPORT~~
EXAMINATION, DECEMBER 2010.

PRINCIPLES OF MANAGEMENT

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

(5 × 20 = 100)

1. In what respect have Fayol's principles of management resulted in contributions to management methods that are different from the techniques of Taylor's scientific management.
2. What is a Project? Discuss the role of policy, procedure and budget in project formulation and implementation.
3. Discuss the various decision situations that can be dealt with by managers while performing decision making function. What are different approaches which can be applied in? Each condition.

4. What is the systems approach of organisation theory? Describe the implementation of systems approach in organisation design.
5. Discuss the meaning and importance of organising as a function of management. What steps have to be taken in designing an organisation.
6. Explain the concept of staffing and briefly discuss the significant activities performed in this connection.
7. Discuss the major tests that are used in selection a what are the benefits and problems in using selection tests? What precautions should be taken to use selection tests more effective.
8. What does the directing function of management involve? Discuss the importance of directing in management process.

Reg. No. :

D 1157

Q.P. Code : [07 DPDEM 03]

(For the candidates admitted from 2007 onwards)

P.G. DIPLOMA IN EXPORT MANAGEMENT
EXAMINATION, DECEMBER 2010.

EXPORT PROCEDURE

Time : Three hours

Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

(5 × 20 = 100)

1. Describe the formalities and registrations with the different authorities before an exporter can accept export contract.
2. Describe the different general conditions in an export contract.
3. What are the factors affecting pricing in exports?
4. State the procedure to get the export order.
5. Explain the features of important incoterms.
6. State the importance of IEC number and describe the procedure to obtain the IEC number.

7. Write the functions of Export Promotion Council.
8. What are the major problems of India's Export Sector?