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 emperical 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.
5. Docking.
6. 3D pharmacophore.
7. Denovo design.
8. Energy levels.
9. SAR.

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.

D 190

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.


10. Give an example for distributed database processing.

11. Define attribute.

12. Write the purpose of Data model.

13. What is meant by Package?


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 us 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 Last button?

13. Define control.

14. ————, ———— and ———— are the three types of control available in VB.

15. Define variable.

SECTION B — (5 x 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 x 8 = 40 marks)

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

Or

(b) Explain Data models.

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

Or

(b) Discuss constraints.
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)

4. Discuss the events of meiosis. (20)

5. (a) Bring out the classification of carbohydrates.

(b) Describe the structure of proteins. (10 + 10)

6. (a) Write an account on B oxidation of fatty acids.

(b) Give a note on de novo pathway. (10 + 10)

7. (a) Describe TCA cycle.

(b) Explain pentose phosphate pathway.

8. (a) Write notes on transamination and deamination.

(b) Elucidate urea cycle. (10 + 10)

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7. Discuss the concept of secondary structure prediction of RNA and protein.

8. Explain "Restriction Mapping".

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. 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.
5. Describe the various approaches in gene prediction.

6. Explain the promoter 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.

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)
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 microbila strain improvement methods with suitable examples.

8. Write short notes on:
(a) negative staining
(b) pasteurizers
(c) selective media
(d) yeast inoculum development.

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.
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.

\[5 \times 20 = 100\]

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 pBR 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.
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 trickling filter in waste water treatment.

8. Write an essay on vermiculture and vermicompositing.
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.

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.

\[5 \times 20 = 100\]

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.
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.
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.

\( (5 \times 20 = 100) \)

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. Bring out 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.
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.
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.
D 1156
Q.P. Code : [07 DPDEM 01]

(For the candidates admitted from 2007 onwards)

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

PRINCIPLES OF MANAGEMENT

Time : Three hours  Maximum : 100 marks

Answer any FIVE questions.

\(5 \times 20 = 100\)

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 my 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 and 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.
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.

\[(5 \times 20 = 100)\]

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?