C–6025	Sub. Code
	80513

B.Sc. DEGREE EXAMINATION, APRIL 2022

First Semester

IT and Logistics

PROGRAMMING IN C

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What are identifiers?

2. Write down the syntax of declaring a variable.

3. What is the use of break statement?

4. What do you mean by looping?

5. What are the two principle components of function definition?

6. What is meant by recursion?

7. Write the general form of array declaration.

8. What are multidimensional arrays?

9. Differentiate structure and union.

10. What are the primary advantages of using a data file?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Describe the C character set.

Or

(b) Write short notes on expressions in C.

12. (a) Compare while and for loops.

Or

(b) Discuss the use of break and continue statements with examples.

13. (a) Discuss : Functions without arguments.

Or

(b) Explain the storage classes in C.

14. (a) Summarize the rules for writing one dimensional array definition.

Or

(b) Write a C program to check whether the given string in palindrome or not.

15. (a) Write a note on operations on pointers.

Or

(b) Explain the different file types that can be specified by fopen ( ) function.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Discuss on :

(i) Data types

(ii) Constants

(iii) C keywords

Or

(b) Explain the various control statements in C with examples.

17. (a) Write a C program for matrix addition.

Or

(b) List and explain the library functions in C.

18. (a) What is a pointer? How it is declared? Explain with an example program.

Or

(b) List and explain the file handling functions in C with example.

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C–6027	Sub. Code
	80523

B.Sc. DEGREE EXAMINATION, APRIL 2022

Second Semester

IT and Logistics

OBJECT ORIENTED PROGRAMMING IN C++

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. List down the features of OOP.

2. How does a main function in C++ differ from main function in C?

3. What is the use of private access specifier in C++?

4. Write the syntax for function overloading in C++.

5. Write the syntax for constructor overloading in C++.

6. What is command line argument?

7. Define the term pure virtual function.

8. What is abstract class?

9. What are the most commonly used manipulators?

10. How a console program interacts with a file?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Write a C++ program to check whether the given number is odd or even.

Or

(b) Write the syntax of for loop and explain its working procedure.

12. (a) Explain inline function with an example.

Or

(b) Write a C++ program to add two numbers using function.

13. (a) Explain constructor with a sample program and write down its characteristics.

Or

(b) Write in detail about operator overloading in C++.

14. (a) Explain virtual function in C++ with an example.

Or

(b) Discuss about access specifiers in C++ with examples.

15. (a) Explain about formatted I/O operations.

Or

(b) Illustrate the features of exception handling in C++.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Compare while and do while statements with suitable examples.

Or

(b) Explain two dimensional arrays with an example program.

17. (a) How to access members of a class? Explain with an example.

Or

(b) With an example program, explain the use of destructor in C++.

18. (a) Explain briefly about types of inheritance in C++.

Or

(b) Discuss on I/O manipulators and their types in C++.

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C–6028	Sub. Code
	80524

B.Sc. DEGREE EXAMINATION, APRIL 2022

Second Semester

IT & Logistics

MATHEMATICS – II

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Obtain $\frac{dy}{dx}$ when $x^3 + 8xy + y^3 = 64$.

2. Evaluate $\lim_{x \to 0} \frac{5^x - 6^x}{x}$.

3. Evaluate $\int \frac{x^3}{\sqrt{1+x^4}} dx$.

4. Evaluate $\int_0^{\pi/2} \sqrt{1 + \sin 2x}\, dx$.

5. Solve $(D^2 + 1)y = x$.

6. Solve $(x^2 + y^2 + x)dx + xydy = 0$.

7. If $u = (x - y)(y - z)(z - x)$ prove that $\frac{\partial u}{dx} + \frac{\partial u}{\partial y} + \frac{\partial u}{\partial z} = 0$.

8. If $u = x\cos y + y\sin x$, verify that $\frac{\partial^2 u}{\partial x \partial y} = \frac{\partial^2 u}{\partial y \partial x}$.

9. Find the Fourier series of $f(x) = \cos^4 x$ in $(0, 2\pi)$.

10. Why is Fourier half-range series called so?

Part B $(5 \times 5 = 25)$

Answer **all** questions.

11. (a) Evaluate $\lim_{x\to\infty}\left(\frac{x+3}{x-1}\right)^{x+3}$.

Or

(b) Find the nth derivatives of $y = \sin^4 x$.

12. (a) Evaluate $\int\sqrt{\frac{x-2}{5-x}}dx$.

Or

(b) Evaluate $\int\frac{x\,dx}{x^4 + x^3 + 1}$.

13. (a) Solve $(D^2 - 4)y = e^{2x} + e^{-4x}$.

Or

(b) Solve $\frac{d^2y}{dx^2} + 4\frac{dy}{dx} + 5y = 0$ given that $y = 2$ and $\frac{dy}{dx} = \frac{d^2y}{dx^2}$ when $x = 0$.

14. (a) If $z(x+y) = x^2 + y^2$, prove that $\left(\frac{\partial z}{\partial x} - \frac{\partial z}{\partial y}\right)^2 = 4\left(1 - \frac{\partial z}{\partial x} - \frac{\partial z}{\partial y}\right)$.

Or

(b) Verify that $\frac{\partial^2 u}{\partial y \partial x} = \frac{\partial^2 u}{\partial x \partial y}$, when $u = x^2 \tan^{-1}\left(\frac{y}{x}\right) - y^2 \tan^{-1}\left(\frac{x}{y}\right)$.

15. (a) Find the half-range cosine series of $f(x) = \sin x$ in $(0, \pi)$.

Or

(b) Find the fourier series expansion of $f(x)$ given by $f(x) = \begin{cases} x, & in\ 0 < x < 2 \\ 0, & in\ 2 < x < 4 \end{cases}$

Part C $(3 \times 10 = 30)$

Answer **all** questions.

16. (a) If $\cos^{-1}\left(\frac{y}{b}\right) = \log\left(\frac{x}{a}\right)$, prove that $x^2 y_{n+2} + (2n+1)x y_{n+1} + (n^2 + a^2) y_n = 0$.

Or

(b) If $u = \log(\tan x + \tan y + \tan z)$, prove that $\sin 2x \frac{\partial u}{\partial x} + \sin 2y \cdot \frac{\partial u}{\partial y} + \sin 2z \cdot \frac{\partial u}{\partial z} = 2$.

17. (a) Evaluate $\int \sqrt{(x-3)(7-x)}\, dx$.

Or

(b) Solve $(D^2 - 2D + 2)y = e^x \sin x$.

18. (a) If $u = (x^2 + y^2 + z^2)^{-1/2}$, prove that $\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} + \frac{\partial^2 u}{\partial z^2} = 0$.

Or

(b) Find the Fourier series expansion of $f(x) = x^2 + x$ in $(-2, 2)$, Hence find the sum of the series $\frac{1}{1^2} + \frac{1}{2^2} + \frac{1}{3^2} + \ldots\infty$

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	80533

B.Sc. DEGREE EXAMINATION, APRIL 2022

Third Semester

IT and Logistics

PROGRAMMING IN JAVA

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. How to execute a Java program using command line arguments?

2. Why Java is called as simple and secure language?

3. Define the term static class.

4. What is the use of substr(m,n) function in Java?

5. Write the difference between error and exception.

6. List the ways of implementing an interface?

7. What is meant by stream in Java?

8. Write the purpose of Date class.

9. Write down the hierarchy of Java AWT.

10. How components are arranged in border layout?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain the features of OOP.

Or

(b) Write a Java program to reverse the given number.

12. (a) Discuss constructors with an example.

Or

(b) Explain abstract classes with an example.

13. (a) Describe access modifiers in Java.

Or

(b) What is meant by thread? Explain the concept of multithreading with an example.

14. (a) Explain the methods in Applet's life cycle.

Or

(b) Illustrate vector class in Java with an example.

15. (a) Discuss about card layout with an example program.

Or

(b) Explain how to create checkbox in Java.

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Illustrate the use of all the operators in Java giving examples.

Or

(b) Discuss about multilevel inheritance in java.

17. (a) Explain any six string handling functions.

Or

(b) Describe user defined packages in Java.

18. (a) Write in detail about Data I/O streams in Java.

Or

(b) Explain frame and dialog containers with suitable examples.

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B.Sc. DEGREE EXAMINATION, APRIL 2022

Fourth Semester

IT and Logistics

COMPUTER NETWORKS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Mention the uses of computer networks.

2. Expand ISDN.

3. What are called Error correcting codes?

4. What is ALOHA?

5. Define Tunneling.

6. Write down the ATM cell format.

7. What do you mean by crash recovery?

8. Differentiate TCP and UDP.

9. What is SNMP?

10. Mention any two data compression standards.

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Discuss about various transmission media.

Or

(b) Write short notes on communication satellites.

12. (a) Explain one bit sliding window protocol.

Or

(b) What are called collision free protocols? Explain.

13. (a) Briefly explain Distance vector routing algorithm.

Or

(b) Write about routing and switching techniques.

14. (a) Describe the elements of transport protocols.

Or

(b) How will you measure the network performance? Explain.

15. (a) What is cryptography? Explain the various methods of cryptography.

Or

(b) Describe the components of E-mail.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Describe the OSI reference model with neat sketch.

Or

(b) Describe petri net models.

17. (a) Explain the working of carrier sense multiple access protocols.

Or

(b) Explain any two congestion control algorithms.

18. (a) Describe the concept of Multiplexing with neat sketch.

Or

(b) Explain Secret key and public key algorithms.

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B.Sc. DEGREE EXAMINATION, APRIL 2022

Fourth Semester

IT and Logistics

WEB TECHNOLOGIES

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Define the term WWW and its terminology.

2. What is the difference between HTML and other programming languages?

3. Name the types of style sheet?

4. How a style sheet varies from a normal HTML code?

5. Write an example to add a font color in a style sheet.

6. Give an example to apply text formatting in a style sheet.

7. Differentiate between java script and html and where it gets implemented?

8. What is meant by data type?

9. What are called objects in HTML?

10. What is screen object?

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Differentiate between internet and intranet and mention their properties.

Or

(b) What are the major types of protocols used in internet? Explain.

12. (a) Elaborate the basic rules to add a style sheet in an html document.

Or

(b) Differentiate between Internal and external style sheets.

13. (a) Enunciate the box and list properties of a style sheet.

Or

(b) Describe the font and color properties of a style sheet with an example.

14. (a) Briefly explain about the dialog box in java script.

Or

(b) Explain the types of expressions used in java script.

15. (a) Elucidate about cookies.

Or

(b) Brief on form objects with proper examples.

Part C

(3 × 10 = 30)

Answer **all** the questions.

16. (a) Explain in detail about HTML forms with an example program.

Or

(b) Describe how a graphics can be added to html document with suitable program.

17. (a) Elaborate on inline style sheets with proper examples.

Or

(b) Enunciate about functions and its properties in java script.

18. (a) Elaborate on windows and document object with proper examples.

Or

(b) Explain in detail about built-in and user defined objects with suitable examples.

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B.Sc. DEGREE EXAMINATION, APRIL 2022.

Fourth Semester

IT and Logistics

DATABASE MANAGEMENT SYSTEM

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define DBMS.

2. What is an entity relationship model?

3. Write the syntax to create a table.

4. Define functional dependency.

5. What are complex types?

6. List the types of storage devices.

7. What is known as search key?

8. Define atomicity.

9. Compare single user and multi user system.

10. Define fine granularity parallelism.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Discuss the various disadvantages in the file system and explain how it can be overcome by the database system.

Or

(b) Give a short note on relational database.

12. (a) Write the basic structure of SQL. Give example.

Or

(b) Write a note on embedded SQL.

13. (a) What is object relational data model? Explain.

Or

(b) Give a brief on file organization.

14. (a) What is sorting? Give example.

Or

(b) Write a note on concurrency control.

15. (a) Briefly explain centralized and client-server architecture.

Or

(b) Differentiate homogeneous and heterogeneous databases.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in detail about DBMS components.

Or

(b) Construct an ER diagram for an employee payroll system.

17. (a) Define normalization. Explain various normal forms.

Or

(b) Describe DDL and DML commands with example.

18. (a) Discuss briefly on indexing and hashing.

Or

(b) When do you say that the system is in deadlock? Explain.

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C–6036	Sub. Code 80551

B.Sc. DEGREE EXAMINATION, APRIL 2022.

Fifth Semester

IT and Logistics

FUNDAMENTALS OF LOGISTICS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is material handling?
2. What is packing?
3. Define logistics costing.
4. What is decentralized logistics?
5. What is centralized logistics?
6. Define integrated logistics.
7. What is LIS?
8. Define warehousing,
9. Define supply chain management.
10. What is transportation?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) What are the needs for integrated activity centers in logistics?

Or

(b) What are the steps in financial gap analysis in integrated logistics?

12. (a) Differentiate Global logistics and Global supply chain.

Or

(b) Write a detail note on strategic logistics planning.

13. (a) Explain documentation in transportation of logistics.

Or

(b) What are the barriers of global logistics?

14. (a) Write a short note on inventory planning models.

Or

(b) What are the needs of inventory management in supply chain?

15. (a) Explain customer retention procurement.

Or

(b) What are the roles of logistics in organization?

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) What are the critical issues in logistics outsourcing?

Or

(b) What are the improvements in inventory management?

17. (a) What are the strategic issues in global logistics?

Or

(b) What are the various types of communication?

18. (a) What are the requirements for an effective logistics strategy?

Or

(b) What are the needs and principles of LIS?

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	80553

B.Sc. DEGREE EXAMINATION, APRIL 2022.

Fifth Semester

I.T and Logistics

CUSTOMS PROCEDURE

(2019 Onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Custom procedure.
2. Define SCOMET.
3. What is meant by customs broker?
4. Write the procedure of authority.
5. What is export?
6. What is import?
7. Define power of prohibit
8. What is meant by warehousing?
9. Define customs port.
10. Define goods in transit.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain Precautions to be taken by person acquiring notified Goods.

Or

(b) Describe Power to declare places to be Warehousing Stations.

12. (a) Explain Detection of illegally imported goods and Prevention of the disposal.

Or

(b) Discuss Persons possessing notified goods to intimate the place of Storage.

13. (a) Describe Customs Duties - Dutiable goods - Duty on Pilfered goods.

Or

(b) Explain Claim for Refund of Duty – Provisional Attachment to protect revenue in certain cases.

14. (a) Describe Arrival of Vessels and Aircraft in India.

Or

(b) Explain Power to exemption.

15. (a) Describe Authority for Advance Rulings.

Or

(b) Explain the powers of Authority.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain Arrival Vessels.

Or

(b) Explain the various types of Warehousing.

17. (a) Explain in detail about duty on pilfered goods.

Or

(b) Explain the interest on delayed funds.

18. (a) Explain the liability on goods transited.

Or

(b) Explain the procedures to licensing on private warehouses.

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C–6040	Sub. Code
	80555

B.Sc. IT DEGREE EXAMINATION, APRIL 2022.

Fifth Semester

IT and Logistics

TRANSPORTATION AND DISTRIBUTION MANAGEMENT

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Distribution.

2. Define Transportation management.

3. What is meant by distribution channel?

4. Write a note on Transportation decision.

5. What is distribution network?

6. Define transportation technology.

7. Define Transit Operation Software.

8. What is meant by Fleet management system?

9. Define transport network design.

10. Define inter-modal freight technology.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Write a short note on Distribution channel design.

Or

(b) Describe the role of transportation in supply chain.

12. (a) What are the benefits of Distribution network?

Or

(b) What are the various approaches used in distribution network channel?

13. (a) Describe Transportation principles – Transportation participants.

Or

(b) What are the various categories of transportation cost?

14. (a) Describe the role of distribution in supply chain.

Or

(b) What are steps in selecting the modes of transportation?

15. (a) Write a short note on Transportation performance.

Or

(b) Write a short note on Advance Fleet System Management.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Write a short essay on Distribution network.

Or

(b) Write a detailed note on Transportation decisions.

17. (a) Explain in detailed note on Characteristics and Selection of transportation mode.

Or

(b) Write a detailed note on Inter-modal Freight Technology.

18. (a) Write a essay on Transportation Securities Initiatives.

Or

(b) Explain in detail: Transportation Routing Decisions.

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C–5664

Sub. Code
16/17/23/25/ 26/27/29

Common for All U.G. B.Sc./B.B.A. DEGREE EXAMINATION, APRIL 2022

First/Second Semester

ENVIRONMENTAL STUDIES

(2019/2020 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. ZSI.

2. WII.

3. What is renewable energy?

4. Food web.

5. Pyramid of numbers in aquatic ecosystem.

6. Red data book.

7. List out any five Endemic species of India.

8. List out marine pollutants.

9. *Ex Situ* Conservation.

10. Enlist Option Values of Biodiversity.

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Write notes on definition, scope and importance of environmental studies.

Or

(b) Write notes on soil erosion and desertification.

12. (a) Write notes on energy flow in the ecosystem.

Or

(b) Write notes on threads to biodiversity.

13. (a) Write notes on Biodiversity at Global, National and Local levels.

Or

(b) Write notes on various strategies of conservation of Biodiversity.

14. (a) Write notes on ecological pyramids.

Or

(b) Write notes on air pollution.

15. (a) Write notes on noise pollution.

Or

(b) Write notes on effects and control measures of nuclear hazards.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Write an essay on the multidisciplinary nature of Environmental Studies.

Or

(b) Write an essay on the following resources with special emphasis to how they are overexploited/utilized which in turn damage the environment, (i) Forest Resources and (ii) Food Resources.

17. (a) Write an essay on "India is a mega-diversity nation".

Or

(b) Write an essay on Biodiversity and their values.

18. (a) Write an essay on causes, effects and control measures of (i) Marine Pollution and (ii) Water Pollution.

Or

(b) Write an essay on concept, structure and function of ecosystem.

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