

# HINDI MAHAVIDYALAYA

(AUTONOMOUS & NAAC RE-ACCREDITED)

(Affiliated to Osmania University)

Nallakunta, Hyderabad-44



B.Sc. I YEAR SEMESTER II

DEPARTMENT OF COMPUTER SCIENCE

2017-2018



## HINDI MAHAVIDYALAYA

(AUTONOMOUS)  
Affiliated to Osmania University  
Nallakunta, Hyderabad-44

### 2017-18 CBCS STRUCTURE

#### SCHEME OF INSTRUCTIONS & EVALUATION

B.SC. M P CS / M S CS

FIRST YEAR SEMESTER-II					Semester End exam		Continuous Internal Evaluation		Total	Practical 2 HRS
Code	Course Title	Course Type	HPW	Credits	Duration in HRS	Marks	Exam Duration	Marks		
BS201	Gender sensitization	AECC-2	2	2	2	40	30 min	10	50	-
BS202	English	CC-1B	5	5	3	80	30 min	20	100	-
BS203	Second Language (H/ S/ T)	CC-2B	5	5	3	80	30 min	20	100	-
BS204	MATHS	DSC-1B	4 T + 2P = 6	4+1=5	3	80	30 min	20	100	25
BS205	PHYSICS / STATISTICS	DSC-2B	4 T + 2P = 6	4+1=5	3	80	30 min	20	100	25
BS206	COMPUTER SCIENCE	DSC-3B	4 T + 2P = 6	4+1=5	3	80	30 min	20	100	25
TOTAL NO. OF CREDITS				27		440		110	625	

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B.Sc I Year Semester II  
Computer Science  
Paper - II

Programming in C++

**Objective:** To develop programming skills to meet given requirements including testing or debugging of the programs developed by self or others. Students to learn the course includes the syntax and semantics of C++, the C++ standard library and regular programming sessions; Block Structuring, Pseudo coding of sample procedures.

**Subject Code:** BS206

Instruction	4 Hrs/ Week
Duration of the Semester Examination	3 Hrs
Duration of the Internal Examination	30 Minutes
Semester Examination	80 Marks
Internal Examination	20 Marks
No of Credits	4 Credits

**Unit-I**

Introduction to C++: Applications, Example Programs, Tokens, Data Types, Operators, Expressions, Control Structures, Arrays, Strings, Pointers, Searching and Sorting Arrays, Functions: Introduction, Prototype, Passing Data by Value, Reference Variables, Using Reference Variables as Parameters, Inline Functions, Default Arguments, Overloading Functions, Passing Arrays to Functions, Object Oriented Programming: Procedural and Object-Oriented Programming, Terminology, Benefits, OOP Languages and OOP Applications.

**Unit-II**

Classes: Introduction, Defining an Instance of a Class, Why Have Private Members? Separating Class Specification from Implementation, Inline Member Functions, Constructors, Passing Arguments to Constructors, Destructors, Overloading Constructors, Private Member Functions, Arrays of Objects, Abstract Array Data Types, Instance and Static Members, Friends of Classes, Member wise Assignment, Copy Constructors, Operator Overloading, Object Conversion, Aggregation.

**Unit-III**

Inheritance: Introduction, Protected Members and Class Access, Base Class Access Specification, Constructors and Destructors in Base and Derived Classes, Redefining Base Class Functions, Class Hierarchies, Polymorphism and Virtual Member Functions, Abstract Base Classes and Pure Virtual Functions, Multiple Inheritance, C++ Streams: Stream Classes, Unformatted I/O Operations, Formatted I/O Operations.

**Unit-IV**

Exceptions: Introduction, Throwing an Exception, Handling an Exception, Object-Oriented Exception Handling with Classes, Multiple Exceptions, Extracting Data from the Exception Class, Rethrowing an Exception, Handling the bad\_alloc Exception, Templates: Function Templates - Introduction, Function Templates with Multiple Type, Overloading with Function Templates, Class Templates - Introduction, Defining Objects of the Class Template, Class Templates and Inheritance, Introduction to the STL.

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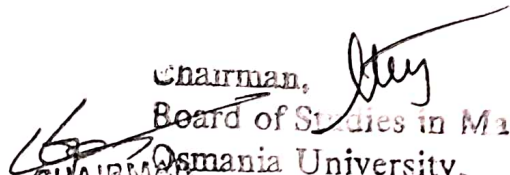
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Text: Tony Gaddis, Starting out with C++: from control structures through objects (7e)


### References

- B.Lippman, C++Primer
- Bruce Eckel, ThinkinginC++
- Herbert Schildt, C++: The Complete Reference
- Bjarne Stroustrup: The C++ Programming Language

  
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B.Sc I Year Semester II

Computer Science

Paper – II (Practical /laboratory)

Programming in C++

Subject Code : BS206P

Duration : 2 Hrs/Week  
Duration of the semester Examination : 3 Hrs  
Marks for semester Examination : 25  
Number of Credits : 1 Credit

11 6-10

1. Write a C++ program to check whether the given number is Armstrong or not. (6)
2. Write a program to print the sum of digits of a given number.
3. Write a program to print the prime number from 2 to n where n is natural number given.
4. Write a program to find largest and smallest elements in a given list of numbers. (10)
5. Write a C++ program to find area of a rectangle, circle, and square using constructors. (7)
6. Write a C++ program using friend and inline functions.
7. Write a menu driven program that can perform the following functions on strings. (Use overloaded operators where possible).
  - a. Compare two strings for equality(==operator)
  - b. Check whether first string is smaller than the second(<=operator)
  - c. Copy the string to another
  - d. Extract a character from the string(overload[]) (9)
  - e. Reverse the string.
  - f. Concatenate two strings(+operator)
8. Write a C++ program to demonstrate single inheritance and multiple inheritances.
9. Write a C++ program to demonstrate hierarchical inheritance and multipath inheritance.
10. Write a C++ program to implement copy constructor. (8)
11. Write a C++ program to demonstrate exception handling.
12. Write a C++ program to demonstrate the class template.
13. Write a C++ program to menu driven program for accepting two numbers and perform calculator operations addition, subtraction, multiplication, division and remainder using function template.
14. Write a C++ program to demonstrate various input-output manipulations.
15. Write a C++ program to implement ADT.
16. Write a C++ program to demonstrate array of objects.

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B.Sc I Year- Semester-II

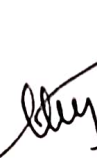
Paper-II


Internal Exam (Theory)


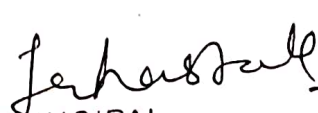
Time: 30 Minutes.


Maximum marks: 20

- Two internal exams (one at the middle of the semester and the other at the end) of half an hour duration are to be conducted carrying 15 marks each.
- Average of the scores of two exams should be taken into account.
- Following is the examination pattern.
  - 10 MCQs (multiple choice questions) of half mark each,
  - 10 FIBs (Fill in the Blanks) of half mark each
  - 5 SAQs (short answered questions) of one mark each
  - **Totaling 15 marks.**
  - 5 marks meant for assignment.

  
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Department of Computer Science

B.Sc I Year- Semester-II

Paper-II

Theory Model Paper

e:BS206  
e: 3 Hrs.

Maximum marks: 80

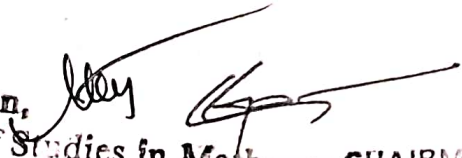
Section - A  
Answer any four of the following eight questions. Each carries four marks. (4 x 5M = 20 Marks)

- From Unit 1
- From Unit 1
- From Unit 2
- From Unit 2
- From Unit 3
- From Unit 3
- From Unit 4
- From Unit 4

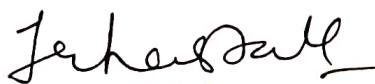
Section - B


Answer all the following four questions. Each carries FIFTEEN marks. (4 x 15M = 60 Marks)

- 9. (a) or (b) from Unit 1
- 10. (a) or (b) from Unit 2
- 11. (a) or (b) from Unit 3
- 12. (a) or (b) from Unit 4

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B.Sc I Year Semester II  
Computer Science  
Paper – II

Time: 2 Hrs

Total Marks:25

I Answer any one question  
Program Execution

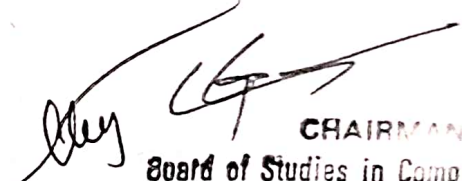
15 Marks

II Record


5 Marks

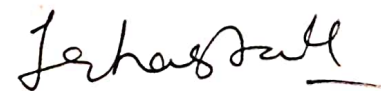
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5 Marks

  
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Department of Computer Science  
Panel of Examiners


I/II Sem

Sno	Name	Phone	Address/Ref
1	B.Ramani	9441214888	AMS, OU Campus, Hyd
2	G. Aparna	9440137700	AMS, OU Campus, Hyd
3	N.Veena	9849743764	Nizam College, Hyd
4	Sunitha	9951944377	Koti Women College, Hyd
5	Vijitha Malini	9000323206	Reddy College Narayan Guda, Hyd
6	Bhaskar Rao	9885639321	AV College, Domal Guda, Hyderabad
7	N.Bhaskar	9347983943	Bhavan College, Hyd
8	Kavitha	9393003871	St Fransis College For Women
9	Madhavi	9701401686	ACME College, Hyderabad
10	Veena	9985117688	AV College, Domal Guda, Hyderabad
11	Sharanya	9849555856	Reddy College Narayan Guda, Hyd
12	Mallishwari	9848313746	Siddartha college Dilshuk Nagar
13	Vijitha	9640508855	Keshav Memorial College, Narayan guda, Hyd
14	D.Hema Latha	9393003982	Koti Women College, Hyd

  
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