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B.C.A. DEGREE (CBCS) EXAMINATION,
APRIL 2017.

(Examination at the end of Second Semester)

Part II

OBJECT ORIENTED PROGRAMMING USING C++

(Regulation 2015-16)

Time : Three hours Maximum : 75 marks

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Define data abstraction.

2. List the basic data types in C++.

3. What is meant by type conversion?

4. What is friend function?

5. What is an object?

6. What is the difference between structure and a class?

7. Define inheritance.

8. Define an array.

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PART B — (5 × 10 = 50 marks)

Answer the following questions.

UNIT I

9. Briefly explain about object oriented programming paradigm.

Or

10. What are the benefits of object oriented programming?

UNIT II

11. Briefly explain the significance of Static data members.

Or

12. What is the purpose of inline functions? Explain with examples.

UNIT III

13. What are the rules for overloading operators?

Or

14. What is the effect of inheritance on the visibility of members?

UNIT IV

15. Define pure virtual function and specific the need of pure virtual function.

Or

16. Explain briefly about 'call by value' and 'call by reference' with examples.

UNIT V

17. What is a file? Explain different types of files in C++.

Or

18. What is an exception? Explain how we handle exceptions in C++.

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Part II

OPERATING SYSTEMS

(Regulation 2016-2017)

Time : Three hours Maximum : 75 marks

SECTION A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Write about computer system organisation.

2. What are five major activities of an operating system with regard to file management?

3. What is a process control block?

4. Write a short note on synchronization.

5. What are the benefits off multithreaded programming?

6. What is contiguous memory allocation?

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7. Explain different file types.

8. Describe dead lock characterisation.

SECTION B — (5 × 10 = 50 marks)

Answer ALL questions.

9. (a) Explain briefly about evolution of operating systems.

Or

(b) List out objectives, functions and services of an operating system.

10. (a) Explain process scheduling in detail.

Or

(b) What is thread library? Describe actions taken by thread library to context switch between user level threads.

11. (a) Write about contiguous memory allocation.

Or

(b) How do you structure a page table? Explain.

12. (a) Give an overview of storage structure.

Or

(b) What is file sharing? Explain how files are shared to various users and systems.

13. (a) Discuss deadlocks in terms of system resource allocation graphs.

Or

(b) What is a deadlock? Explain methods for handling deadlocks.

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16. Compute Bowley's coefficient of skewness from the following data

No. of days absent :	0-5	5-10	10-15	15-20
No. of students :	4	8	7	7
No. of days absent :	20-25	25-30	30-35	
No. of students :	11	4	3	

UNIT V

17. Find out rank correlation from the following data

x	40	35	20	40	15	50	80	75
y	30	20	12	18	30	15	30	10

Or

18. Calculate Karl Pearson's coefficient of correlation from the following data

x	38	35	32	25	48	42	45	52
y	25	28	30	29	26	40	35	22

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Part II

STATISTICAL METHODS AND THEIR APPLICATIONS

(Regulation 2015 – 16)

Time : Three hours Maximum : 75 marks

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Explain the concept of tabulation of data.
2. Explain the concept of preparation of frequency distribution.
3. Discuss the merits and demerits of G.M. and H.M.
4. Explain the grouped data and ungrouped data.
5. Explain the concept of skewness.
6. Frequency distribution.

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7. What is Correlation? Explain different types o correlation.

8. Explain the concept Spearman's rank correlation.

PART B — (5 × 10 = 50 marks)

Answer the following questions.

UNIT I

9. Discuss classification of data.

Or

10. What is a frequency polygon how do you draw it for the data?

Wages :	250-259	260-269	270-279	280-289
No. of workers :	10	18	27	20
Wages :	290-299	300-309	310-319	
No. of workers :	15	8	2	

UNIT II

11. Compute the Arithmetic mean, median and mode from the following data

Marks :	15-19	20-24	25-29	30-34	35-39	40-44
No. of students :	4	20	38	24	10	9

Or

12. What are the merits, demerits and limitations of Arithmetic mean, median, mode

UNIT III

13. Find out coefficient of variation from the following data

Income	No. of people
Above 50	100
Above 80	98
Above 110	78
Above 140	50
Above 170	40
Above 200	25
Above 230	15
Above 260	4

Or

14. Compute mean deviation from median

x	0-50	50-100	100-150	150-200	200-250	250-300	300-350
f	8	12	20	30	20	12	8

UNIT IV

15. Calculate Karl Pearson's coefficient of skewness from the following data

x	0-20	20-40	40-60	60-80	80-100	100-120	120-140
f	9	22	10	30	25	8	6

Or

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