



(Pages : 3)

4818

Reg. No. :

Name :

Second Semester B.Sc./B.C.A. Degree Examination, July 2015

Career Related FDP under CBCSS

Group 2(b) : Computer Science/Computer Applications

CS 1242/CP 1242 : Object Oriented Programming

(2014 Admission)

Time : 3 Hours

Max. Marks : 80

SECTION – A

(Very Short Answer Type)

One word to maximum of one sentences. Answer all questions : (10×1=10 Marks)

1. What is encapsulation ?
2. What are identifiers ?
3. What are bit-fields ?
4. What are constructors ?
5. What is operator overloading ?
6. What are static objects ?
7. What are void pointers ?
8. What is new operator ?
9. What are exceptions ?
10. What is eof() function ?

P.T.O.



SECTION – B
(Short Answer)

Not to exceed **one** paragraph. Answer **any eight** questions. **Each** question carries **two** marks : **(8×2=16 Marks)**

11. What is structured programming ?
12. What are derived data types ?
13. What is message passing ?
14. Write a C++ code which uses default arguments.
15. What are inline functions ?
16. Give the principles of function overloading.
17. What are the disadvantages of Inheritance ?
18. What are copy constructors ?
19. Write about virtual base classes.
20. What are wild pointers ?
21. What are the uses of scope resolution operator ?
22. What are different access modifiers in C++ explain with example ?

SECTION – C
(Short Essay)

Not to exceed **120** words. Answer **any six** questions. **Each** question carries **four** marks : **(6×4=24 Marks)**

23. Explain the advantages of using object-oriented concepts.
24. Explain type-conversion with an example.
25. Elaborate about constructor overloading with an example.



26. Explain call-by-value and call-by-reference.
27. Write a C++ program explaining operator overloading.
28. Explain multi-level inheritance with example.
29. Explain different types of input/output manipulators with example.
30. Explain Static and Dynamic binding.
31. Write a C++ program to exchange values between two classes using friend function.

SECTION – D
(Long Essay)

Answer **any two** questions. **Each** question carries **15** marks : **(2×15=30 Marks)**

32. Give detailed explanation on the different types of data-types with suitable examples.
 33. Explain any three types of inheritance with examples.
 34. Explain virtual function in detail with examples.
 35. a) Write a C++ program to display a string in reverse using recursion.
b) Write a C++ program to illustrate the use of pointers to objects.
-

2014-17 Batch.

BCA



(Pages : 3)

4755

Reg. No. :

Name :

**Second Semester B.B.A./B.Sc./B.C.A./B.Com./B.Voc. Degree
Examination, July 2015
Career Related First Degree Programme under CBCSS
Group 2(b)
LANGUAGE COURSE – II
EN 1211.4 : Writing and Presentation Skills
(2013 Admission Onwards)
Common for EN 1211 : Writing and Presentation Skills
(B.Voc – Software Development) and
General Course – EN 211 : Writing and Presentation Skills in English
(B.Voc – Tourism and Hospitality Management)**

Time : 3 Hours

Max. Marks : 80

I. Answer **all** questions. Correct the following sentences. If the sentences are correct, write "No Error".

- 1) The new opened restaurant has become the talk of the town.
- 2) Two peoples were injured in the firing.
- 3) People has become internet addicted.
- 4) Can you send me a scanned copy of the letter ?
- 5) The chief executive are meeting top managers immediately.
- 6) The police fire tear gas shells at the crowd.
- 7) Yesterday, there was a beautiful flower in the garden.
- 8) I likes watching movies.
- 9) Once upon a time, there lived an majestic lion.
- 10) We woke up hearing a loud cry.

(10×1=10 Marks)

II. Answer **any eight** of the following questions in **one** or **two** sentences **each** :

- 11) Write any four important differences between written and spoken communication.
- 12) Write any four common ways of ending a letter.

P.T.O.



- 13) Which forms the right way of representing the following ?
WHO/W.H.O
ENCL:/encl:
- 14) Find the correctly spelt word from the following :
honourable/honorable
Fulfilment/fulfillment
Maintenance/maintenance
Career/carreer
- 15) What are the three main parts of letter writing ?
- 16) What are the advantages of email ?
- 17) What are the differences between etiquette and netiquette ?
- 18) Write two common methods used for conducting surveys.
- 19) Write any four usages for offering a helping hand.
- 20) What are scaled questions ?
- 21) Define report.
- 22) What are the three 'Es' to be followed while answering an examination question ?
(8×2=16 Marks)

III. Answer **any six** questions.

- 23) What are the basic rules to be kept in mind while formatting a business letter ?
- 24) Draft an email to your college office asking for details of the course fee of your next semester.
- 25) Write a dialogue between you and a longtime friend you met while travelling in a bus. Discuss in detail of your career plan and other matters of relevance.
- 26) What are close ended questions ? Why are they mostly used in surveys ?



- 27) Characteristic features of a dialogue.
- 28) Write a short paragraph on plastic hazard using the notes given below.
Hazardous waste/destroying environment/ecosystem disrupted/dangerous pollutants/ecofriendly products/new label and form to be promoted
- 29) How will you formulate an abstract for your project report ?
- 30) Discuss in detail the four step process involved in making effective presentations.
- 31) Define simile and metaphor and how it is used in creative writing ?

(6×4=24 Marks)

IV. Attempt **any two** of the following.

- 32) What is the role of a copy writer ? Imagine you are applying for the post of a copywriter. The manager asks you to prepare a copy for the pen that you have in hand. Prepare a copy.
- 33) Social websites a boon or bane. Discuss.
- 34) Imagine you are the college representative. The principal has assigned you with the task of presenting you college to a foreign university student who has come as an internee. Write in detail how you will present your college to that student.
- 35) Prepare a resume with a covering letter in response to an advertisement published in *The Hindu* dated 15/5/2015 for the post of a computer programmer.

(2×15= 30 Marks)



(Pages : 4)

4782

Reg. No. :

Name :

Second Semester B.C.A. Degree Examination, July 2015
(Career Related First Degree Programme under CBCSS)
(2013 Admission Onwards)
Group 2 (b) : Complementary Course
MM 1231.9 : MATHEMATICS – II

Time: 3 Hours

Max. Marks: 80

SECTION – I

All the first 10 questions are **compulsory**. Each question carries 1 mark. Answer in **one** word to maximum of **two** sentences :

1. State DeMorgan's laws.
2. What is meant by tautology ?
3. When will you say that a function $f : A \rightarrow B$ is invertible ?
4. Define equivalence relation.
5. Give an example of a totally ordered set.
6. Give an example of a non-abelian group.
7. Find the number of edges in a complete graph on 6 vertices.
8. Check whether the set Z of integers with binary operation $*$ such that $x * y = x^y$ is a semigroup or not.
9. Give an example of a regular graph on five vertices.
10. Define bipartite graph.

P.T.O.



SECTION – II

Answer **any 8** questions from among the questions **11 to 22**. They carry **two** marks each.

11. What is meant by Boolean expression ? Give an example.
12. Draw the truth tables of conditional and biconditional statements.
13. Obtain disjunctive normal forms of :
 - a) $p \wedge (p \rightarrow q)$
 - b) $\neg(p \vee q) \Leftrightarrow p \wedge q$.
14. Let R be an equivalence relation on a set A . Prove that R induces a partition on A .
15. Is the following function one-one ?

$$f : \mathbb{N} \rightarrow \mathbb{N} \text{ where } f(n) = \begin{cases} 2n, & n \text{ is even} \\ n, & n \text{ is odd} \end{cases}$$
16. Let $f(x) = x + 3$, $g(x) = x - 4$, $h(x) = 5x$ are functions from \mathbb{R} to \mathbb{R} , where \mathbb{R} is the set of real numbers. Show that $f \circ (g \circ h) = (f \circ g) \circ h$.
17. Let Z be the set of integers and let T be the set of all even integers. Show that the semigroups $(Z, +)$ and $(T, +)$ are isomorphic.
18. Define Hamming distance and state its properties.
19. Prove that in a simple digraph sum of out degree of all the vertices is equal to the sum of in degree of all vertices and this sum is equal to the number of edges.
20. Construct a DFSA M that accept exactly the strings of x 's and y 's that have even number of y 's.
21. Prove that in a group G , the identity element and inverse of an element is unique.
22. Draw the complete graph on 4 vertices and find its adjacency matrix.



SECTION – III

Answer **any 6** questions from among the questions **23 to 31**. They carry **four** marks each.

23. Explain the resolution principle with a suitable example.

24. Test the validity of the argument.

$$p \rightarrow q$$

$$\frac{q}{p}$$

25. Let $A = \{1, 2, 3, 4\}$ and R be the relation $\{(1, 2), (2, 3), (3, 4), (2, 1)\}$. Find the transitive closure by using Warshal's algorithm.

26. Let A be the set of non-zero integers and let \approx be the relation on $A \times A$ defined by $(a, b) \approx (c, d)$ whenever $ad = bc$. Check whether \approx is an equivalence relation.

27. Define bijection. Show that if f and g are bijections from X to Y and Y to Z respectively, then $g \circ f : x \rightarrow z$ is also a bijection.

28. Define group isomorphism. Let G be the group of real numbers under addition and let G' be the group of positive real numbers under multiplication. Show that $f : G \rightarrow G'$ defined by $f(x) = e^x$ is an isomorphism.

29. Define ring and give an example.

30. Explain the depth-first search algorithm with a suitable example.

31. Sketch the graph of each function :

a) $f(x) = \frac{1}{2}x - 1$

b) $g(x) = \begin{cases} 0, & \text{if } x = 0 \\ 1/x, & \text{if } x \neq 0 \end{cases}$.



SECTION – IV

Answer **any two** questions from among the questions **32 to 35**. They carry **15 marks each**.

32. a) Test the validity of the argument :
- If a man is a bachelor, he is unhappy.
If a man is unhappy, he dies young.
-
- Bachelors die young.
- b) Show that the propositions $\neg(p \wedge q)$ and $\neg p \vee \neg q$ are logically equivalent.
- c) Verify the proposition $p \vee \neg(p \wedge q)$ is a tautology.
33. a) Explain Breadth-first search algorithm with a suitable example.
- b) Find the inverse of the following functions :
- i) $f(x) = 2x - 3$
- ii) $g(x) = \frac{2x - 3}{5x - 7}$.
34. a) State and prove the inclusion-exclusion theorem in set theory.
- b) Prove that a hamming code can correct all combinations of k or fewer errors if and only if the minimum distance between any two code is atleast $2k + 1$.
35. a) Explain the communication model and error correction in detail.
- b) Let G be a directed graph. Show that a vertex v is the root of a strongly-connected component of G if and only if $\text{lowlink}[v] = v$.
-