

(Pages : 3)

J – 2898

Reg. No. :

Name :

Second Semester B.Sc./B.C.A. Degree Examination, May 2020

Career Related First Degree Programme Under CBCSS

Group 2(b) – Computer Science/Computer Applications

CS 1242/CP 1242

OBJECT ORIENTED PROGRAMMING

(2014 to 2017 Admission)

Time : 3 Hours

Max. Marks : 80

SECTION – A

(Very short answer type)

One word to maximum of one sentences, Answer all questions.

1. Explain procedural programming.
2. Describe encapsulation.
3. Of which class the extraction operator >> member of?
4. What is meant by type conversion?
5. How do we invoke a constructor function?
6. Define destructor.
7. What is the use of scope resolution operator?

P.T.O.

8. What is multiple inheritance?
9. Write a short note on virtual function.
10. Give example for an exception.

(10 × 1 = 10 Marks)

SECTION – B

(Short answer)

Not to exceed one paragraph, answer any **eight** questions. Each question carries **2** marks.

11. Define class.
12. What is meant by C++ streams?
13. Explain data hiding.
14. What is meant by access specifiers?
15. How to create an object for a class? Explain with an example.
16. What is an anonymous object?
17. What is protected inheritance?
18. Explain the use of 'new' operator.
19. Define late binding.
20. When do we make a virtual function 'pure'?
21. What is object slicing?
22. Discuss various input and output streams used in C++.

(8 × 2 = 16 Marks)

SECTION – C

(Short essay)

Not to exceed **120** words, answer any **six** questions. Each question carries **4** marks.

23. Explain parameter passing mechanism with proper examples.
24. What are static members? Explain with proper example.
25. Explain overloaded constructor with example.
26. Explain how to overload pre increment and post increment operator.
27. Discuss protected inheritance with suitable example.
28. Explain virtual base class with example.
29. What is meant by an abstract class? Give example.
30. What is function overriding? Explain with suitable example.
31. Briefly explain compile time polymorphism with example.

(6 × 4 = 24 Marks)

SECTION – D

(Long Essay)

Answer any **two** questions. Each question carries **15** marks.

32. Discuss why Object Oriented Programming is the best programming paradigm when compared to procedural and structural approach.
33. Why friend function is required? Discuss with suitable examples.
34. Explain different types of inheritance with example.
35. Explain in detail how exceptions are handled in C++.

(2 × 15 = 30 Marks)

(Pages : 4)

J – 2857

Reg. No. :

Name :

**Second Semester B.A./B.Sc./B.Com./BBA/BCA/BSW/BMS/B.Voc. Degree
Examination, May 2020**

Career Related First Degree Programme Under CBCSS

Group 2(b)

Language Course II

EN 1211.4/EN 211 : WRITING AND PRESENTATION SKILLS

(2013-2018 Admission)

Time : 3 Hours

Max. Marks : 80

Answer all questions :

- I. Correct the following sentences. If the sentences are correct, write "No Error".
1. Do not kept wild animals at the zoo.
 2. The teacher was impressed with I and José.
 3. They have managed to make a good life themselves.
 4. My younger brother works for three years in a bank.
 5. I am loving this movie.
 6. It is raining for two days.

P.T.O.

7. It slipped the mind.
8. Joy involved in an accident.
9. I drive very carefully.
10. I have decided to go to Mumbai a week ago.

(10 × 1 = 10 Marks)

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

11. What is the Cornell Method of note-making?
12. Define a predicate.
13. What is meant by a philosophical essay?
14. What is the importance of business letters?
15. Define a business report.
16. Give two advantages for conducting a telephonic interview.
17. What is meant by bibliography?
18. Mention two tips for writing a Newspaper Report.
19. Why is E-mail so popular?
20. Write two advertising lines for a newly launched fashion store.
21. Punctuate the following sentence:
after all what is there to watch on television
22. Mention the names of some of the different types of note making.

(8 × 2 = 16 Marks)

III. Answer any six directed.

23. Write a letter to the Librarian for reissuing your Library card.

24. Construct a dialogue on the following topic in about 80 words.

You are at a Mobile Phone. You ask the shopkeeper about the latest mobile phones.

25. Prepare a report on an awareness programme conducted towards 'Lifestyle Diseases'.

26. Prepare a functional curriculum vitae highlighting your skills and experience.

27. What are the characteristic features of E-mails?

28. How can a business report be made effective?

29. Prepare a bunch of questions for conducting a survey on the rising rate of alcoholism in your locality.

30. Write a précis of the following passage reducing it to one third of its length.

Machines have, in fact, become the salves of modern life. They do more and more work that human beings do not want to do themselves. Think for a moment of the extent to which machines do work for you. You wake, perhaps, to the hoot of a siren by a machine in a neighbouring factory. You wash in water brought to you by the aid of machinery, heated by machinery and placed in basins for your convenience by a machine. You eat your breakfast quickly cooked for you by machinery, go to school in machines made for saving leg labour. And if you are lucky to be in a very modern school, you enjoy cinema where a machine teaches you or you listen to lessons broadcast by one of the most wonderful machines. So dependent has man become on machines that a certain writer imagines a time when machines will have acquired a will of their own and become the master of men, doomed once more to slavery.

31. Write a paragraph of 80 words on Politics on Campus.

(6 × 4 = 24 Marks)

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

32. Write an essay on **any one** of the following in about two to three pages.

- (a) Reading as a habit.
- (b) The drawbacks of social media.
- (c) Universal Literacy.

33. Write a project report on **any one** of the following topics:

- (a) E-Learning
- (b) Rise of rural India.
- (c) Decline in mortality.

34. Create content for 15-20 slides on **any one** of the following Power Point Presentation.

- (a) The importance of communication.
- (b) The perils of smartphones.
- (c) Youth and Social Media.

35. Write an essay elaborating the various methods of data collection.

(2 × 15 = 30 Marks)

(Pages : 4)

J – 2897

Reg. No. :

Name :

Second Semester B.Sc./BCA Degree Examination, May 2020

Career Related First Degree Programme Under CBCSS

Group 2 (b) Computer Science/Computer Applications

CS 1241/CP 1243 - DATA STRUCTURES

(2014-17 Admission)

Time : 3 Hours

Max. Marks : 80

SECTION – A

(Very Short Answer Type)

One word to maximum of one sentences. Answer all questions.

1. Define stack.
2. What is meant by array of structures?
3. Define pointer to a function.
4. What do you mean by pop operation?
5. Define Binary Tree.
6. What is meant by tree traversing?
7. What do you mean by sequential search?

P.T.O.

8. Define depth-first search.
9. What is meant by hash table?
10. Write two applications of Graph.

(10 × 1 = 10 Marks)

SECTION – B (Short Answer)

Not to exceed **one** paragraph, answer **any eight** questions. **Each** question carries **2** marks.

11. Distinguish between static and dynamic data structure.
12. What do you mean by circular linked list?
13. Define LIFO.
14. What is pointer array?
15. What do you mean by pre-order tree traversal?
16. What is meant by First In First Out data structure?
17. Define non-linear data structure.
18. What is a priority queue?
19. What is meant by complexity of an algorithm?
20. What is meant by directed graph?
21. List any three basic searching techniques.
22. Define collision resolution in hashing.

(8 × 2 = 16 Marks)

SECTION – C (Short Essay)

Not exceeding **120** words. Answer **any six** questions. **Each** question carries **4** marks.

23. What is meant by doubly linked list? Explain some applications of linked list.
24. Convert the following infix expression into corresponding postfix expression
(a) $(A - B) * (D / E)$ (b) $(A + B - D) / (E - F) + G$
25. Write an algorithm to evaluate a given expression in postfix form. Discuss the different steps used in the algorithm.
26. What is recursion? Compare a recursive program with iterative program.
27. Distinguish between ordinary queues and circular queue.
28. Distinguish between linked lists and arrays. Mention their relative advantages and disadvantages.
29. Suppose the following sequences list nodes of a binary tree T in preorder and inorder respectively.

Preorder: A B C E I F J D G H K L

Inorder: E I C F J B G D K H L A

Draw the diagram of the tree

30. Write algorithm for insertion sort.
31. Explain various operations on graphs.

(6 × 4 = 24 Marks)

SECTION – D

(Long Essay)

Answer **any two** questions. **Each** question carries **15** marks.

32. Write the algorithms to perform the following operations in circular queue.
(a) insertion (b) deletion (c) display

33. Write an algorithm to implement stack of size N using an array. The elements in the stack are to be integers. The operations to be supported are PUSH, POP and DISPLAY.
34. What do you mean by dynamic memory allocation? Mention the different functions used for this. Explain the function that is used for allocating the required size of memory with an example.
35. What is a binary search tree? Discuss how it is constructed? Mention the advantages of binary tree search algorithms.

(2 × 15 = 30 Marks)

(Pages : 4)

J – 2913

Reg. No. :

Name :

Second Semester B.Sc./B.C.A. Degree Examination, May 2020

Career Related First Degree Programme Under CBCSS

Group 2(b) – Computer Science/Computer Applications

CS 1221/CP. 1241

ENVIRONMENTAL STUDIES

(2015 to 2017 Admission)

Time : 3 Hours

Max. Marks : 80

SECTION – A

(Very short answer type)

(One word to maximum of one sentences, Answer all questions)

1. Define biodiversity.
2. What are primary producers?
3. What is watershed?
4. Name any two green house gases.
5. What is sustainable development?
6. Expand (a) IPCC (b) MoEFCC.
7. Name the first National park in India.

P.T.O.

8. Carnivores are the _____ consumers.
9. Montreal protocol is related to what?
10. The founder of Green belt movement was _____

(10 × 1 = 10 Marks)

SECTION – B

(Short Answer)

(Not to exceed one paragraph, Answer any eight questions. Each question carries 2 marks.)

11. Write a note on primary air pollutants.
12. Differentiate between food chain and food web.
13. What is a carbon foot print?
14. Explain the cultural values of biodiversity.
15. Write about pond as an ecosystem.
16. Write about hydrarch succession.
17. Write a note on acid rain.
18. Which are the natural causes of air pollution?
19. Briefly explain about environmental ethics.
20. What do you mean by endangered and extinct species?
21. Explain what is nuclear holocaust?
22. Write about household waste management in rural areas.

(8 × 2 = 16 Marks)

SECTION – C

(Short essay)

(Not to exceed 120 words, Answer any six questions. Each question carries 4 marks.)

23. Write a note on secondary air pollutants.
24. Explain about the ecological functions of biodiversity.
25. Write a note on the impacts of human population growth.
26. Briefly explain about rain water harvesting.
27. Write a note on human wildlife conflict with respect to Kerala.
28. Explain about the relevance of wetland conservation.
29. Briefly explain about the impacts of nuclear accidents.
30. Write about the biogeographical zones of India.
31. Write about the management of industrial wastes.

(6 × 4 = 24 Marks)

SECTION – D

(Long essay)

Answer any two questions. Each question carries 15 marks.

32. Write an essay on watershed management and its significance with suitable examples.
33. Explain about the global warming and its consequent effects.

34. Explain the role of biodiversity conservation for the well being of people with suitable examples.
35. Discuss about the water pollution and its management.

(2 × 15 = 30 Marks)

(Pages : 3)

J – 2935

Reg. No. :

Name :

Second Semester B.C.A. Degree Examination, May 2020

Career Related First Degree Programme Under CBCSS

Group 2(b) – Computer Applications

CP 1242

OBJECT ORIENTED PROGRAMMING

(2018 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer all questions in one or two sentences.

1. What is Polymorphism?
2. Define Dynamic Binding?
3. Write the syntax of for loop.
4. Define Constructors.
5. What is meant by early binding?
6. Define hierarchical inheritance.
7. Write a note on derived class constructors.
8. What is a pure virtual function?
9. Define getline() function.
10. What is an exception?

(10 × 1 = 10 Marks)

P.T.O.

Reg. No. :

Name :

Second Semester B.C.A. Degree Examination, May 2020

Career Related First Degree Programme Under CBCSS

Group 2(b) – Computer Applications

CP 1243 — DATA STRUCTURES

(2018 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **all** questions, **each** question carries **1** mark.

1. What is data structure?
2. What is hashing?
3. What is rear in queue?
4. The process of arranging data in some logical order is known as _____.
5. What is a graph?
6. What is a leaf node?
7. What are expression trees?
8. What is overflow in a stack?

9. What is an array?
10. What is a dynamic data structure?

(10 × 1 = 10 Marks)

SECTION – B

Answer any **eight** questions, **each** question carries **2** marks.

11. Explain polish notation.
12. What are the main advantages of circular linked list?
13. Explain sequential search technique.
14. What is hash function?
15. Write a note on hash table searching.
16. How can you insert a node into a binary tree?
17. How can you implement linked list using pointers?
18. What is bubble sort?
19. Explain the data structure stack.
20. How can you represent graph in memory?
21. Discuss the applications of tree data structures.
22. Differentiate FIFO and LIFO data structures.

(8 × 2 = 16 Marks)

SECTION – C

Answer any **six** questions, **each** question carries **4** marks.

23. Consider the following array. How will you search 21 using Binary search? Explain.

12 21 33 45 78 99 100

24. Discuss the implementation of queue using array.
25. Differentiate push() and pop() operation on stack.
26. How can you create a binary search tree?
27. Explain memory allocation of linked list.
28. Compare linear and non-linear data structures.
29. Describe the linked list implementation of stack.
30. Explain the applications of graph data structure.
31. What is circular Linked List?

(6 × 4 = 24 Marks)

SECTION – D

Answer any **two** questions, **each** question carries **15** marks.

32. Explain about organization and operations on queue.
33. Discuss different graph traversal methods with example.
34. Define a binary tree. Explain tree traversal techniques.
35. What is linked list? What are the different types of linked list? Explain singly linked list.

(2 × 15 = 30 Marks)

(Pages : 4)

J – 2884

Reg. No. :

Name :

Second Semester B.C.A. Degree Examination, May 2020

Career Related First Degree Programme under CBCSS

Group 2(b) — Computer Applications

Complementary Course

MM 1231.9 — MATHEMATICS – II

(2013 Admission onwards)

Time : 3 Hours

Max. Marks : 80

SECTION – I

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

1. Give the structure of proof by contradiction.
2. State De Morgans' Laws.
3. Give examples for finite and infinite sets.
4. Define normal and subnormal fuzzy sets.
5. Is the function $F : Z \mapsto Z$ by $f(x) = x^2 + x + 1$ one-one.
6. Define monoid.
7. Write the dual of the Boolean expression.

P.T.O.

8. Let $A = \{1, 2, 3, 4, 5\}$ and $B = \{a, b, c, d\}$. Consider the following relations from A to B

$$R = \{(1, a), (1, c), (2, b), (2, c), (3, a), (3, b), (3, d), (4, a), (4, d), (5, a), (5, c)\}$$

$$S = \{(1, b), (1, c), (2, d), (3, b), (5, a)\}$$

Find M_S .

9. Define a spanning tree of graph G .

10. Find the number of articulation points in a complete graph of 10 vertices.

SECTION – II

Answer any eight questions among the questions 11 to 22. They carry 2 marks each.

11. What are the main steps involved in proof by contradiction.

12. Show that $p \vee q \equiv \neg p \rightarrow q$.

13. Give a direct proof that if x and y are odd integers then $x + y$ is even.

14. If $C = \{0, 1\}$, find C^+ and C^* .

15. Define algebraic product and sum of two fuzzy subsets.

16. Define the term Poset with suitable example.

17. Find the consensus Q of $P_1 = x'yz$ and $P_2 = xyz'$.

18. If a semigroup $(S, *)$ has an identity element, then it is unique.

19. Let $f(x) = x^2 - 2$ find its roots in Z_4 .

20. Give an example of an anti-symmetric relation.
21. Which are the two types of edges in an undirected graph?
22. Find the number of vertices in a complete graph with 10.

SECTION – III

Answer any six questions among the questions 23 to 31. They carry 4 marks each.

23. Prove that if n is an integer and $3n + 2$ is odd, then n is odd.
24. Show that $P \vee (P \wedge Q) \Leftrightarrow P$ by principal disjunctive normal form.
25. Show that the formula $Q \vee (P \wedge \neg Q) \vee (\neg P \wedge \neg Q)$ is a tautology.
26. Show that the function $f: R \mapsto R^*$; by $f(x) = e^x$ where R^* is the positive real numbers and R is the set of real numbers is a bijection.
27. Let $A = \{1, 2, 3, 4\}$ and let $R = \{(1, 2), (2, 3), (3, 4), (2, 1)\}$, draw the digraph of R and also find the transitive closure of R .
28. Show that in a group G , $ab = ac$ implies $b = c$ for all $a, b, c \in G$.
29. Prove that $0a = a0 = 0$ in a ring R .
30. Reduce the following Boolean products to either 0 or a fundamental product
 - (a) xyz'
 - (b) $xyzy$.
31. Explain Planar and Non-Planar Graphs with suitable examples.

SECTION – IV

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

32. (a) Prove that the argument $p \rightarrow \neg q$, $r \rightarrow q$ and r imply $\neg p$.
- (b) Prove or disprove that the product of two irrational numbers is irrational.
33. (a) Let R be a relation on Set

$$S = \{a, b, c, d, e\}$$

given as

$$R = \{(a, a), (a, d), (b, b), (c, d), (c, e), (d, a), (e, b), (e, e)\}$$

Find transitive closure of R using Warshall's Algorithm.

- (b) Suppose A is Z and n is a fixed positive integer. Let $a \sim R^b$ mean that $a \equiv b \pmod{n}$. Show that $\sim R$ is an equivalence relation.
34. Show that the set of real numbers under usual multiplication and addition is a ring.
35. (a) Explain Euler Graph with suitable example.
- (b) Explain Planar and Non-Planar Graphs with suitable examples.

(Pages : 4)

J – 2884

Reg. No. :

Name :

Second Semester B.C.A. Degree Examination, May 2020

Career Related First Degree Programme under CBCSS

Group 2(b) — Computer Applications

Complementary Course

MM 1231.9 — MATHEMATICS – II

(2013 Admission onwards)

Time : 3 Hours

Max. Marks : 80

SECTION – I

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

1. Give the structure of proof by contradiction.
2. State De Morgans' Laws.
3. Give examples for finite and infinite sets.
4. Define normal and subnormal fuzzy sets.
5. Is the function $F : Z \mapsto Z$ by $f(x) = x^2 + x + 1$ one-one.
6. Define monoid.
7. Write the dual of the Boolean expression.

P.T.O.

8. Let $A = \{1, 2, 3, 4, 5\}$ and $B = \{a, b, c, d\}$. Consider the following relations from A to B

$$R = \{(1, a), (1, c), (2, b), (2, c), (3, a), (3, b), (3, d), (4, a), (4, d), (5, a), (5, c)\}$$

$$S = \{(1, b), (1, c), (2, d), (3, b), (5, a)\}$$

Find M_S .

9. Define a spanning tree of graph G .
10. Find the number of articulation points in a complete graph of 10 vertices.

SECTION – II

Answer **any eight** questions among the questions **11 to 22**. They carry **2 marks each**.

11. What are the main steps involved in proof by contradiction.
12. ✓ Show that $p \vee q \equiv \neg p \rightarrow q$.
13. ✓ Give a direct proof that if x and y are odd integers then $x + y$ is even.
14. ✓ If $C = \{0, 1\}$, find C^+ and C^* .
15. ✓ Define algebraic product and sum of two fuzzy subsets.
16. Define the term Poset with suitable example.
17. Find the consensus Q of $P_1 = x'yz$ and $P_2 = xyz'$.
18. If a semigroup $(S, *)$ has an identity element, then it is unique.
19. ✓ Let $f(x) = x^2 - 2$ find its roots in Z_4 .

20. Give an example of an anti-symmetric relation.
21. Which are the two types of edges in an undirected graph?
22. Find the number of vertices in a complete graph with 10.

SECTION – III

Answer **any six** questions among the questions **23 to 31**. They carry **4 marks each**.

23. Prove that if n is an integer and $3n + 2$ is odd, then n is odd.
24. Show that $P \vee (P \wedge Q) \Leftrightarrow P$ by principal disjunctive normal form.
25. Show that the formula $Q \vee (P \wedge \neg Q) \vee (\neg P \wedge \neg Q)$ is a tautology.
26. Show that the function $f: R \mapsto R^*$; by $f(x) = e^x$ where R^* is the positive real numbers and R is the set of real numbers is a bijection.
27. Let $A = \{1, 2, 3, 4\}$ and let $R = \{(1, 2), (2, 3), (3, 4), (2, 1)\}$, draw the digraph of R and also find the transitive closure of R .
28. Show that in a group G , $ab = ac$ implies $b = c$ for all $a, b, c \in G$.
29. Prove that $0a = a0 = 0$ in a ring R .
30. Reduce the following Boolean products to either 0 or a fundamental product
 - (a) $xyxz'$
 - (b) $xyzy$.
31. Explain Planar and Non-Planar Graphs with suitable examples.

SECTION – IV

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

32. (a) Prove that the argument $p \rightarrow \neg q$, $r \rightarrow q$ and r imply $\neg p$.
- (b) Prove or disprove that the product of two irrational numbers is irrational.

33. (a) Let R be a relation on Set

$$S = \{a, b, c, d, e\}$$

given as

$$R = \{(a, a), (a, d), (b, b), (c, d), (c, e), (d, a), (e, b), (e, e)\}$$

Find transitive closure of R using Warshall's Algorithm.

- (b) Suppose A is Z and n is a fixed positive integer. Let $a \sim R^b$ mean that $a \equiv b \pmod{n}$. Show that $\sim R$ is an equivalence relation.
34. Show that the set of real numbers under usual multiplication and addition is a ring.
35. (a) Explain Euler Graph with suitable example.
- (b) Explain Planar and Non-Planar Graphs with suitable examples.

(Pages : 12)

J – 2521

Reg. No. :

Name :

**Second Semester B.Sc./B.Com./B.B.A./B.C.A./B.S.W./B.M.S./B.Voc. Degree
Examination, May 2020**

Career Related First Degree Programme Under

CBCSS – 2(b)

Language Course – English

EN 1211.4/EN 211/EN 1211 : ENGLISH FOR CAREER

(2019 Admission)

Time : 3 Hours

Max. Marks : 80

- I. Answer all the following questions. Follow the instructions given in the brackets whenever needed.
 1. The correct spelling of the word 'abcense' is _____.
 2. The antonym of the word 'brave' is _____.
 3. Another word for enormous is _____.
 4. The noun form of dangerous is _____.
 5. Did Mary knew that the results were out? (Correct the sentence).
 6. I _____ (work) in this office for the past five months. (Use the correct tense form of the verb in brackets)
 7. You can drive a car _____? (Use the correct question tag)
 8. We need your _____ to proceed further with the project. (asset/assent)

P.T.O.

9. Neither my father nor my brother are coming for the programme. (Correct the sentence).
10. I can't _____ with this anymore! (Use the appropriate phrasal verb which means 'tolerate'.

(10 × 1 = 10 Marks)

II. Answer any **eight** of the following questions :

11. Give the antonym of two of the following words
- (a) soft
 - (b) messy
 - (c) ostracise
12. Replace the words in italics with the correct words/phrases.
- (a) *How a pity* that you missed the show!
 - (b) *So a shame* that he treats his sister so!
13. Make sentences of your own with any two of the phrasal verbs :
- (a) Look up to
 - (b) make away with
 - (c) put up with
 - (d) gave up
14. Fill in the blank with the correct Wh word :
- (a) _____ is the best burger in this restaurant?
 - (b) I have not yet found the girl _____ I was looking for.
15. Fill in the blank using a collective noun: (swarm, colony, flock, pack)
- (a) I saw a _____ of dogs in the field.
 - (b) A _____ of ants was seen marching by.
16. Fill in the blank with the suitable degree of adjective :
- (a) This is the _____ coffee I have ever had. (good)
 - (b) This is the _____ bakery in town. (worse)

Correct the error in the words given in italics :

17. (a) I bought my earring from the *jewellers* in Thrissur.
(b) *My brother in laws* have gone to London today.
18. (a) There are many types of *fishes* at the cold storage now.
(b) I think the paper may be available at the *stationary* shop.
19. (a) The *degrading* of the environment will lead to our end.
(b) Many animals these days face *extension*.
20. Arrange the adverbs in the correct order and rewrite the sentence :
(a) Seetha danced (tonight, beautifully, at the get together)
(b) I have asked everyone to come (in the evening, here, at nine).
21. Read the paragraph and answer the questions :

Ferrari is an Italian luxury sports car manufacturer based in Maranello. Founded by Enzo Ferrari in 1939 out of Alfa Romeo's race division as Auto Avio Costruzioni, the company built its first car in 1940. However, the company's inception as an auto manufacturer is usually recognized in 1947, when the first Ferrari-badged car was completed.

- (a) What does 'luxury' mean?
(b) What is Ferrari?
22. Philosophy of Education is a label applied to the study of the purpose, process, nature and ideals of education. It can be considered a branch of both philosophy and education. Education can be defined as the teaching and learning of specific skills, and the imparting of knowledge, judgement and wisdom, and is something broader than the societal institution of education we often speak of.
- (a) Give another word for 'imparting'.
(b) What is education?

(8 × 2 = 16 Marks)

III. Answer any six of the following questions :

23. Match the parts in column A with that of column B

- | | |
|-------------------------------|------------------------------------|
| (a) Practice the song well | (i) that we may gain knowledge |
| (b) Here comes none other | (ii) and a lyricist. |
| (c) The boys care for neither | (iii) lest you forget your lyrics. |
| (d) He is both a singer | (iv) than the star singer! |
| (e) We read | (v) money nor fame. |

24. Fill in the blanks with the correct option :

- (a) I had asked you to _____ immediately, hadn't I? (write me/write to me)
- (b) The inflation will _____ people badly. (affect/effect)
- (c) Dan is a very _____ person. (dynamic/denying)
- (d) He was _____ from work for not doing his work well. (laid off/layed off)

25. Spot the error, underline the wrong phrase and correct the sentences :

- (a) They do not stop their protest unless their pay is hiked.
- (b) This shirt, so expensive, is too tight for me to wear.
- (c) She is absent owing to her ill.
- (d) No sooner the door closed, than we broke out into a dance.

26. (a) Transform the following sentences into active voice

- (i) Cricket is played in most countries today.
- (ii) Were you taught to sing when you were young?

(b) Transform the following into passive voice :

- (i) Happiness lighted up their faces.
- (ii) She invited me to her new home yesterday.

27. Fill in the blanks with suitable pronouns : (we, it, my, you, your)

A : Is this _____ new house?

B : Yes _____ is. Come, let us all go and see _____. Make sure that _____ all are careful around it _____ must not make it dirty _____ mother will scold me otherwise.

A : Sure _____ will be careful.

28. Correct the error :

(a) The doctor thinks his condition is *more bad* than yesterday.

(b) Please drive as *careful* as you can.

(c) You should run *fastly* as you can.

(d) Nobody was *so beautiful* as her.

29. Fill in the blanks with suitable articles if necessary :

(a) _____ elephant is _____ largest of all _____ living animals, and _____ native of _____ Asia.

(b) _____ number of trees in _____ world, according to _____ 2015 estimate, is around _____ 3.04 million.

(c) _____ owner and _____ manager of _____ company, Mr. Shah, is coming over for _____ meeting today.

(d) _____ United States of _____ America is _____ largest exporter of _____ machinery in _____ world, which includes _____ computers.

30. Read the passage and answer the questions below :

Coronaviruses are a group of viruses that cause diseases in mammals and birds. In humans, corona viruses cause respiratory tract infections that are typically mild, such as the common cold, though rarer forms such as SARS, MERS, and COVID-19 can be lethal. Symptoms vary in other species : in chickens, they cause an upper respiratory tract disease, while in cows and pigs they cause diarrhea. There are yet to be vaccines or antiviral drugs to prevent or treat human coronavirus infections. The name *coronavirus* is derived from the Latin *corona*, meaning "crown" or "halo".

- (a) What is the synonym of the word "lethal" as used in the passage? (legal, accepted, deadly, scary)
- (b) Which are the rarer forms of the virus?
- (c) Give a word from the passage that means 'obtain something from'.
- (d) What do you mean by halo?

31. Pollution is the introduction of contaminants into the natural environment that cause adverse change. Pollution can take the form of chemical substances or energy, such as noise, heat or light. Pollutants, the components of pollution, can be either foreign substances/energies or naturally occurring contaminants. Pollution is often classed as point source or nonpoint source pollution. In 2015, pollution killed 9 million people in the world.

- (a) What do you mean by contaminants?
- (b) Give the meaning of adverse.
- (c) What are pollutants?
- (d) How can we classify pollution?

(6 × 4 = 24 Marks)

IV. Answer any two of the following questions, choosing one from each group :

GROUP A

32. Read the following passage and answer the questions below :

In my younger and more vulnerable years my father gave me some advice that I've been turning over in my mind ever since. "Whenever you feel like criticizing any one," he told me, "just remember that all the people in this world haven't had the advantages that you've had." He didn't say any more, but we've always been unusually communicative in a reserved way, and I understood that he meant a great deal more than that. In consequence, I'm inclined to reserve all judgments, a habit that has opened up many curious natures to me and also made me the victim of not a few veteran bores. The abnormal mind is quick to detect and attach itself to this quality when it appears in a normal person, and so it came about that in college I was unjustly accused of being a politician, because I was privy to the secret griefs of wild, unknown men. Most of the confidences were unsought – frequently I have feigned sleep, preoccupation, or a hostile levity when I realized by some unmistakable sign that an intimate revelation was quivering on the horizon; for the intimate revelations of young men, or at least the terms in which they express them, are usually plagiaristic and marred by obvious suppressions. Reserving judgments is a matter of infinite hope. I am still a little afraid of missing something if I forget that, as my father snobbishly suggested, and I snobbishly repeat, a sense of the fundamental decencies is parcelled out unequally at birth.

And, after boasting this way of my tolerance, I come to the admission that it has a limit. Conduct may be founded on the hard rock or the wet marshes, but after a certain point I don't care what it's founded on. When I came back from the East last autumn I felt that I wanted the world to be in uniform and at a sort of moral attention forever; I wanted no more riotous excursions with privileged glimpses into the human heart. Only Gatsby, the man who gives his name to this book, was exempt from my reaction – Gatsby, who represented everything for which I have an unaffected scorn.

(a) The word 'consequence' in the passage is closest in meaning to

- | | |
|----------------|-----------------|
| (i) effect | (ii) result |
| (iii) sequence | (iv) replicated |

(b) 'Privy' in the passage means

- | | |
|----------------|-------------|
| (i) Appeal | (ii) thrive |
| (iii) aware of | (iv) check |

- (c) What advice did his father give him?
- (d) What was the result of this advice?
- (e) Why was he accused of being a politician?
- (f) What does 'turning over in his mind' mean?
- (g) Give another word for 'unsought'.
- (h) Which word from the passage means 'exposed to the possibility of being attacked'?
- (i) About what did he not care after a certain point?
- (j) Which is the word in the passage that is opposite to 'variable'?
- (k) What is the meaning of 'boasting'?
- (l) Give another word for 'snobbish'.
- (m) Who is the one person who the narrator wanted to know about?
- (n) What did Gatsby represent?
- (o) Give the antonym of the word 'hostile'.

OR

33. Fill in the blanks with suitable articles, prepositions, conjunctions, adverbs or adjectives :

- (a) _____ you don't come on time to work, I will dismiss you.
- (b) You can _____ opt for Italian or German.
- (c) _____ United States has _____ largest art museum in _____ world.
- (d) I am desperate _____ an apprentice _____ help me _____ my work.

- (e) _____ I came early to work, I might as well get some work done.
- (f) The Alps are the _____ Mountains in Europe.
- (g) This exam is _____ than I expected.
- (h) _____ external examiner _____ your exam has arrived.
- (i) The house is big _____ for all of us to live in.
- (j) It was _____ evening when we reached the station (later/late)
- (k) He spoke _____ his first book.
- (l) _____ tired, we decided to lunch before going out. (being/to be)
- (m) My dog likes _____ cats. (to chase/of chasing).
- (n) In spite of _____ well, she was still tired. (having slept/sleeping)
- (o) What do you plan _____ her for her wedding? (to give/giving).

(15 × 1 = 15 Marks)

GROUP B

34. Read the following passage and answer the questions below :

Once when I was six years old I saw a magnificent picture in a book, called True Stories from Nature, about the primeval forest. It was a picture of a boa constrictor in the act of swallowing an animal. Here is a copy of the drawing. In the book it said: "Boa constrictors swallow their prey whole, without chewing it. After that they are not able to move, and they sleep through the six months that they need for digestion." I pondered deeply, then, over the adventures of the jungle. And after some work with a colored pencil I succeeded in making my first drawing. My Drawing Number One. I showed my masterpiece to the grown-ups, and asked them whether the drawing frightened them. But they answered: "Frighten? Why should any one be frightened by a hat?" My drawing was not a picture of a hat. It was a picture of a boa constrictor digesting an elephant. But since the grown-ups were not able to understand it, I made another drawing: I drew the inside of a boa constrictor, so that the grown-ups could see it clearly. They always need to have things explained.

The grown-ups' response, this time, was to advise me to lay aside my drawings of boa constrictors, whether from the inside or the outside, and devote myself instead to geography, history, arithmetic, and grammar. That is why, at the age of six, I gave up what might have been a magnificent career as a painter. I had been disheartened by the failure of my Drawing Number One and my Drawing Number Two. Grown-ups never understand anything by themselves, and it is tiresome for children to be always and forever explaining things to them.

- (a) What do you mean by 'magnificent'?
- | | |
|------------------|--------------------------|
| (i) large | (ii) extremely beautiful |
| (iii) magnifying | (iv) none of the above |
- (b) What does 'pondered' mean?
- | | |
|----------------------|------------------------|
| (i) to wander | (ii) like a pond |
| (iii) to think about | (iv) none of the above |
- (c) What is the meaning of 'disheartened'?
- | | |
|---------------|-----------------|
| (i) benefited | (ii) dispirited |
| (iii) helped | (iv) supported |
- (d) Which is the 'magnificent' picture mentioned?
- (e) What is a Boa constrictor?
- (f) What was his first picture of?
- (g) What did the grown ups mistake the picture for?
- (h) What advice did he get from grown ups?
- (i) What is the meaning of 'give up'?
- (j) What happened at the age of six?
- (k) Choose another word for 'tiresome'
- | | |
|---------------|------------|
| (i) Sad | (ii) Happy |
| (iii) Tedious | (iv) None |

(l) What is the meaning of 'career'?

(i) to carry

(ii) a job

(iii) load

(iv) flatten

(m) Who is the narrator?

(n) Give a suitable title for this passage.

(o) Give another word for 'grown ups'.

OR

35. Spot the error in the underlined sections in the following sentences. If there is no error, the answer is 'D'

(a) Gandhi had great compassion for the poor. No error

A

B

C

D

(b) The relationship among the two women was strong and lasting. No error

A

B

C

D

(c) I'm glad that Rema is making good progress of her studies. No error.

A

B

C

D

(d) He was amused with the boys' attempts to climb up the wall. No error.

A

B

C

D

(e) Does he have any objection of our project proposal? No error.

A

B

C

D

(f) This is the biggest rock that I have ever seen. No error.

A

B

C

D

(g) Gravity was discovered by Issac Newton. No error.

A

B

C

D

(h) Can you tell me the story of the King Harry? No error.

A B C D

(i) The cars crashed with the noise like a big explosion. No error.

A B C D

(j) Sri Aurobindo graduated from the King's College, Cambridge. No error.

A B C D

(k) Plans are been made by the club to make a short film. No error.

A B C D

(l) Let flowers be planted all over this hill. No error.

A B C D

(m) The committee has been agreed to consider his petition. No error.

A B C D

(n) Most accidents are caused from rash driving. No error.

A B C D

(o) Did you not angry at their refusal to obey the rules? No error.

A B C D

(15 × 1 = 15 Marks)

(Pages : 4)

J – 2932

Reg. No. : 33219825048

Name : Steffy Babu

Second Semester B.Sc./BCA Degree Examination, May 2020

Career Related First Degree Programme Under CBCSS

Group2(b) Computer Science / Computer Applications

CP 1241/CS 1221 : ENVIRONMENTAL STUDIES

(2018 Admission onwards)

Time : 3 Hours

Max. Marks : 80

SECTION – A

(Very Short Answer type)

(One word to maximum **one** sentence. Answer **all** questions. Each question carries 1 mark.)

1. _____ are the producers in the ecosystem.
2. _____ is defined by physicists as the capacity to do work.
3. What is global warming?
4. Define pollution.
5. _____ is the worlds single largest contributor of green house gases.
6. What are food webs?
7. What is biodiversity?

P.T.O.

8. The innermost layer of the atmosphere is called _____.
9. The nuclear reactors use _____ to produce electricity.
10. Name two commonly used biopesticides.

(10 × 1 = 10 Marks)

SECTION – B

(Short Answer)

(Not to exceed **one** paragraph, Answer **any eight** questions. Each question carries **2** marks.

11. Describe the factors to be considered when selecting an appropriate fire detection system.
12. How can desert ecosystems be conserved?
13. Write about the inspection and maintenance of fire extinguishers.
14. What are non-renewable resources?
15. Write about Environment (Protection) Act. What are its objectives?
16. What can individuals do to prevent water pollution?
17. What is the use of automatic sprinkler systems? List the four basic types of automatic sprinkler systems.
18. What is biogas?
19. Write about noise Pollution. Mention noise control techniques.

20. What are hazardous wastes? List the four primary characteristics of hazardous wastes.
21. Write about primary pollutants.
22. What is meant by acid rain?

(8 × 2 = 16 Marks)

SECTION – C

(Short Essay)

(Not to exceed **120** words, Answer **any six** questions. Each question carries **4** marks.

23. Define ecosystem, Describe the structure and functions of ecosystem.
24. Differentiate between In-situ and Ex-situ conservation of bio diversity. Give examples.
25. What do you mean by 'Greenhouse Effect' ?Give its adverse effects.
26. Discuss two environmental movements.
27. Explain the Concept of producers, consumers and decomposers.
28. Discuss Cyclones and mitigation measures.
29. Discuss the effects of air pollution on living organisms.
30. What are the threats to the forest ecosystem?
31. List the Biogeographic Zones of India.

(6 × 4 = 24 Marks)

SECTION – D

(Long Essay)

Answer **any two** questions. Each question carries **15** marks.

32. Describe in detail about the energy flow in the ecosystem.
33. What are natural resources? How are they classified? Explain in detail.
34. Discuss the threats to biodiversity.
35. Explain in detail about various types of ecosystems.

(2 × 15 = 30 Marks)

(Pages : 3)

J – 2935

Reg. No. : 33219825035

Name : Nandhana PK

Second Semester B.C.A. Degree Examination, May 2020

Career Related First Degree Programme Under CBCSS

Group 2(b) – Computer Applications

CP 1242

OBJECT ORIENTED PROGRAMMING

(2018 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **all** questions in **one** or **two** sentences.

1. What is Polymorphism?
2. Define Dynamic Binding?
3. Write the syntax of for loop.
4. Define Constructors.
5. What is meant by early binding?
6. Define hierarchical inheritance.
7. Write a note on derived class constructors.
8. What is a pure virtual function?
9. Define getline() function.
10. What is an exception?

(10 × 1 = 10 Marks)

P.T.O.

SECTION – B

Answer any **eight** questions, **not** exceeding a paragraph of **50** words.

11. How enumerated datatypes are used in C++? ✓
12. Explain symbolic constants in C++.
13. What do you mean by nested if Statements? ✓
14. Distinguish between formal parameter and actual parameter. ✓
15. "Inline functions improve performance". Is this statement true? ✓
16. Explain the merits of using friend function. ✓
17. Explain static member function in C++? ✓
18. What is a copy constructor? ✓
19. A friend function cannot be used to overload the assignment operator. Why?
20. Explain how public derivation of inheritance happens? ✓
21. State the different types of stream classes. ✓
22. Define setw() and setprecision() manipulator functions.

(8 × 2 = 16 Marks)

SECTION – C

Answer any **six** questions, in a page of **100** words.

23. What are the benefits of Object Oriented programming? ✓ ✓
24. What is an array? How arrays are implemented in C++? ✓
25. Explain switch..case with example. ✓
26. What is the difference between inline functions and macros?

27. Write about the use and initialization of static data members.
28. How destructors are used? Explain the characteristics of destructors and constructors. ✓
29. Explain Function overloading. ✓
30. What are the different types of access specifiers? ✓
31. Explain with a simple program in C++ showing the runtime behaviour of Virtual functions. ✓

(6 × 4 = 24 Marks)

SECTION – D

Answer any **two** questions, not exceeding **four** pages.

32. Which are the different loop control structures in C++? Illustrate with example.
33. Write a program to illustrate complex number addition using binary operator overloading. Use operator function as member function.
34. Write a program to illustrate how constructors are implemented when the classes are inherited?
35. With an example explain in detail how exceptions are handled in C++.

(2 × 15 = 30 Marks)

(Pages : 3)

J – 2936

Reg. No. :

Name :

Second Semester B.C.A. Degree Examination, May 2020

Career Related First Degree Programme Under CBCSS

Group 2(b) – Computer Applications

CP 1243 — DATA STRUCTURES

(2018 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **all** questions, **each** question carries **1** mark.

1. What is data structure?
2. What is hashing?
3. What is rear in queue?
4. The process of arranging data in some logical order is known as _____.
5. What is a graph?
6. What is a leaf node?
7. What are expression trees?
8. What is overflow in a stack?

P.T.O.

9. What is an array?
10. What is a dynamic data structure?

(10 × 1 = 10 Marks)

SECTION – B

Answer any **eight** questions, **each** question carries **2** marks.

11. ✓ Explain polish notation. ✓
12. ✓ What are the main advantages of circular linked list? ✓
13. ✓ Explain sequential search technique. ✓
14. ✓ What is hash function? ✓
15. ✓ Write a note on hash table searching. ✓
16. How can you insert a node into a binary tree?
17. ✓ How can you implement linked list using pointers?
18. ✓ What is bubble sort? ✓
19. ✓ Explain the data structure stack. ✓
20. How can you represent graph in memory?
21. Discuss the applications of tree data structures.
22. ✓ Differentiate FIFO and LIFO data structures. ✓

(8 × 2 = 16 Marks)

SECTION – C

Answer any **six** questions, **each** question carries **4** marks.

23. ✓ Consider the following array. How will you search 21 using Binary search? Explain.

12 21 33 45 78 99 100

24. Discuss the implementation of queue using array.
25. Differentiate push() and pop() operation on stack.
26. How can you create a binary search tree?
27. Explain memory allocation of linked list.
28. Compare linear and non-linear data structures.
29. Describe the linked list implementation of stack.
30. Explain the applications of graph data structure.
31. What is circular Linked List?

(6 × 4 = 24 Marks)

SECTION – D

Answer any **two** questions, **each** question carries **15** marks.

32. Explain about organization and operations on queue.
33. Discuss different graph traversal methods with example.
34. Define a binary tree. Explain tree traversal techniques.
35. What is linked list? What are the different types of linked list? Explain singly linked list.

(2 × 15 = 30 Marks)

(Pages : 4)

J – 2932

Reg. No. :

Name :

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6. What are food webs?
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P.T.O.

8. The innermost layer of the atmosphere is called _____.
9. The nuclear reactors use _____ to produce electricity.
10. Name two commonly used biopesticides.

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(Short Answer)

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(Short Essay)

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(Long Essay)

Answer any two questions. Each question carries 15 marks.

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33. What are natural resources? How are they classified? Explain in detail.
34. Discuss the threats to biodiversity.
35. Explain in detail about various types of ecosystems.

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