



RR Institute of Management Studies
Raja Reddy Layout, Chikkabanavara, Bengaluru-560090
Department of Computer Applications
First Semester BCA-Question Bank

Max Marks: 30

Date : 17/01/2021

Time : 90 minutes

Subject: General English

Two Marks Questions:

1. Why the Tree Magical in the story “The Wolf” ?
2. Why is the night suffering for the author?
3. What do the wolves do standing below the tree?
4. How does the author’s companion kill the Wolf?
5. Why is the author amazed at the end of the story?
6. Mention any two routine deeds Jainulabdeen did as he started his day in “Wings of Fire”?
7. What made Rameshwaram so sacred to pilgrims?
8. What were the topics of discussion between Kalam and Jalalluddin?
9. Who is Samsuddin? How did he influence young Kalam?
10. How did Kalam make his first earnings?

Five Marks Questions:

1. How does the author react on gaining freedom in the story “The Wolf” ?
2. Write a leave letter to the principal of your college citing suitable reasons.
3. What is the primary difference between the two men on the tree?
4. How did Kalam’s parents influence his childhood?
5. How did Shivasubramania Iyer show his rebellious side being an orthodox Brahmin?

Ten Marks Questions:

1. Write a brief note on the following people and their influence on young Kalam:
Jainulabdeen
Ashiamma
Ahmed Jallaluddin
Samsuddin
Shivasubramania Iyer
2. Kalam was a teacher, a scientist, a scientific adviser and the President of India. Do you think his childhood and early days at school moulded his career? Explain.
3. We have to fight our demons and wolves individually. Wolves as strong as one imagines them to be substantiate.



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Subject: Problem Solving Techniques Using C

Two Marks Questions:-

1. Write the syntax for switch case statement.
2. State the differences between while and do while loop.
3. Write any four mathematical functions in C.
4. Mention any four string functions in C.
5. What is string? What is the length of the string computer?
6. Write any four functions and modes on Files.
7. Define file pointer.
8. What is software? Mention the classification of software.

Five Marks Questions:-

1. Draw a flowchart for finding roots of quadratic equation.
2. Explain relational and logical operators.
3. Explain input output function in files.
4. Explain nested loops. Write the syntax and example.
5. Explain different types of arguments.
6. Explain arrays. Write the types.

Ten Marks Questions:-

1. Explain different functions on Files.
2. Explain Fibonacci series.
3. Write a c program for finding a factorial number.
4. Write a c program to add two matrices.
5. Write a c program to find a number is prime or not.



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Date : 18/01/2021

Time : 90 minutes

Subject: Additional English

Two marks Questions:

1. What is considered a magic wand?
2. Is there any harm in cultivating habit?
3. How did the writer solve his problem of hanging hat?
4. How does the speaker mood change in lines 9 to 14?
5. What makes the speaker feel better in the sonnet?
6. What changes speakers' mood?
7. What is Mr.Balfour's habit?
8. How does love aid people in sonnet 29?
9. What was the remedy found out by the writer for his problem?
10. What introduced between the writer and his thoughts?

Five Marks Questions:

1. How did the writer come to know that he was in conflict with a habit?
2. Is there any harm in cultivating habit? Discuss.
3. How can one take care of the tyranny of little habit?
4. Discuss and analyse the meaning of the sonnet 29.
5. What are the grievances the speaker remembers? What thought cheer him up?

Ten Marks Questions:

1. According to the poet what is the significance of love in the sonnet 29?
2. How does the writer solve his problem with regard to his habit? Elucidate with example.
3. How can you cultivate habits? How can we come out of the problems of our habits?



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Time : 90 minutes

Subject: Digital Electronics

Section – A

Two Marks Questions

1. Define SOP and POS.
2. State De Morgan's Theorem.
3. What is meant by Principle of Duality?
4. Define Pair, Quad.
5. What are universal logic gates?
6. What is Half Adder?
7. What is Full Adder?
8. What is X-OR gate?

Section – B

Five Marks Questions

1. Discuss about Boolean algebra.
2. Write a note on error correction and error detection codes.
3. State and Prove De-morgan's theorem.
4. Explain Commutative law.
5. Explain Associative law.

Section – C

Ten Marks Questions

1. Explain Half Adder and full adder.
2. Prove $A+B \cdot A+C = A+BC$
3. Simplify Boolean expression Using K-Maps $AB'C+A'BC+A'B'C'+A'B'C+AB'C'$.
4. Simplify the Minterm function $Y = m(0,2,4,8,10,14)$
5. Using the K-map, simplify the following expression and draw the equivalent logic circuit.
 $Y = m_1+m_3+m_5+m_7+m_8+m_9+m_{12}+m_{13}$.



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Max Marks: 50

Date : 19/01/2021

Time : 90 minutes

Subject: Discrete Mathematics

Two marks questions:

1. Define abelian group. (2019, 2015)
2. If $\vec{a} = 2\hat{i} + 3\hat{j} - 4\hat{k}$ and $\vec{b} = 3\hat{i} - 4\hat{j} - 5\hat{k}$ find $|\vec{a} + \vec{b}|$ (2019, 2015)
3. Define a group. (2018, 2017)
4. If $\vec{a} = 3\hat{i} - 4\hat{j}$ and $\vec{b} = 2\hat{i} + \hat{j}$ find $|\vec{a} + \vec{b}|$ (2018)
5. If $\vec{a} = 2\hat{i} + 3\hat{j} + 4\hat{k}$ and $\vec{b} = \hat{i} - 2\hat{j} + \hat{k}$ find $|2\vec{a} + \vec{b}|$ (2017)
6. On the set of integers Z , binary operation $*$ defined by $a * b = \frac{ab}{3}$. (2016)
7. If $\vec{a} = 2\hat{i} - 3\hat{j} + 4\hat{k}$ and $\vec{b} = \hat{i} - \hat{j} + 2\hat{k}$ find $|\vec{a} - \vec{b}|$ (2016)
8. Find the scalar product of $2\hat{i} + \hat{j} - 3\hat{k}$ and $3\hat{i} - 4\hat{j} + 7\hat{k}$.
9. Show that the vector $\hat{i} - 2\hat{j} + 3\hat{k}$, $-2\hat{i} + 3\hat{j} - 4\hat{k}$ and $\hat{i} - 3\hat{j} + 5\hat{k}$ are coplanar.
10. Define order of a group.
11. Show that the points $(-1, -2, -3)$, $(4, 5, 1)$ and $(9, 8, 5)$ are collinear.
12. Define scalar with an example.

Five marks questions:

1. Prove that the set $G = \{1, -1, i, -i\}$ form an abelian group under multiplication. (2019)
2. Show that $H = \{0, 2, 4\}$ is a sub group of the group $G = (G, +_6)$ where $G = \{0, 1, 2, 3, 4, 5\}$. (2019, 2017)
3. If $\vec{a} = 2\hat{i} - 3\hat{j} + \hat{k}$, $\vec{b} = \hat{i} + \hat{j} - \hat{k}$ and $\vec{c} = 3\hat{i} - \hat{j} + 2\hat{k}$ verify that $\vec{a} \cdot (\vec{b} + \vec{c}) = \vec{a} \cdot \vec{b} + \vec{a} \cdot \vec{c}$. (2019)
4. Find the area of triangle whose vertices are $A(3, 2, 1)$, $B = (4, -1, 2)$ and $C = (-1, 3, 2)$ using vector method. (2019, 2017)
5. Find the value of 'm', if $\vec{a} = m\hat{i} - 3\hat{j} + 4\hat{k}$, $\vec{b} = \hat{i} + 3\hat{j} + \hat{k}$ and $\vec{c} = 2\hat{i} + \hat{j} + \hat{k}$ are coplanar. (2019, 2017)
6. Show that $(Z_6, +_6)$ where $Z = \{0, 1, 2, 3, 4, 5\}$ is a group. (2018)
7. Show that set of all fourth root of unity forms a group under multiplication. (2018)
8. Show that the points with positive vector $2\hat{i} - \hat{j} + \hat{k}$, $\hat{i} - 3\hat{j} - 5\hat{k}$ and $3\hat{i} - 4\hat{j} - 4\hat{k}$ are vertices of right angled triangle. Also find the remaining angles of the triangle. (2018)
9. Show that the point $A(2, 3, -1)$, $B(1, -2, 3)$, $C(3, 4, -2)$ and $D(1, -6, 6)$ are coplanar. (2018)

10. Find the area of parallelogram whose diagonals are $\vec{a} = 3\hat{i} + \hat{j} - 2\hat{k}$, $\vec{b} = \hat{i} - 3\hat{j} + 4\hat{k}$ (2018)
11. If $\vec{a} = 2\hat{i} + \hat{j} + 4\hat{k}$, $\vec{b} = 3\hat{i} - \hat{j} + 2\hat{k}$ and $\vec{c} = 3\hat{i} + \hat{j} + 4\hat{k}$ find $\vec{a} \cdot (\vec{b} \times \vec{c})$. (2017)
12. Prove that the set $G = \{3n/n \in \mathbb{Z}\}$ is an abelian group under addition. (2016)
13. Prove that the set $G = \{2, 4, 6, 8\}$ is an abelian group w.r.t multiplication modulo 10. (2016)
14. If $\vec{a} = \hat{i} - \hat{j} + 2\hat{k}$, $\vec{b} = 2\hat{i} + 3\hat{j} - \hat{k}$ find $(\vec{a} + 2\vec{b}) \cdot (2\vec{a} - \vec{b})$. (2016)
15. Show that the points $A(1, 2, 3)$, $B(2, 3, 1)$, $C(3, 1, 2)$ are vertices of an equilateral triangle. (2016)
16. Find the value of 'm', if $4\hat{i} + 11\hat{j} + m\hat{k}$, $7\hat{i} + 2\hat{j} + 6\hat{k}$ and $\hat{i} + 5\hat{j} + 4\hat{k}$ are coplanar, find m. (2016)
17. If $G = \{3^n: n \in \mathbb{Z}\}$ show that G is abelian group under multiplication.
18. Prove that $G = \{1, 5, 7, 11\}$ is a group under multiplication modulo 12.
19. Find the value of λ for the vector $\vec{a} = 3\hat{i} + \hat{j} - 2\hat{k}$, $\vec{b} = \hat{i} + \lambda\hat{j} - 3\hat{k}$ are perpendicular to each other.
20. Find the area of triangle whose vertices are $A(1, 2, 3)$, $B = (2, 5, 1)$ and $C = (-1, 1, 2)$ using vector method.
21. If the vectors $2\hat{i} - 3\hat{j} + m\hat{k}$, $2\hat{i} + \hat{j} - \hat{k}$ and $6\hat{i} - \hat{j} + 2\hat{k}$ are coplanar find m.
22. Find the area of parallelogram whose adjacent sides are represented by the vector $\hat{i} + \hat{j} + \hat{k}$ and $\hat{i} - \hat{j} + \hat{k}$.