37302/C020/32302/41302

Reg. No. | | | | | | | | |

III Semester B.C.A 3/B.B.A 3/B.C.A 4 Degree Examination, Nov./Dec. - 2019

KANNADA (Basic)

(Regular)

ಸಾಹಿತ್ಯ ಸಿಂಚನ – 3, ಸಂಪಾದಕರು : ಡಾ. ಕೆ.ಆರ್.ಮೆಳವಂಕಿ, ಡಾ. ಎಂ.ಎಸ್.ಮಾಗಣಗೇರಿ, ಡಾ. ಪಾರ್ವತಿ ಚೌಕಿಮಠ

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

ಭಾಷೆ ಮತ್ತು ಬರಹದ ಶುದ್ಧಿಗೆ ಗಮನ ಕೊಡಲಾಗುವುದು.

1. ಯುದ್ಧ ರಂಗಕ್ಕೆ ಬಂದ ಉತ್ತರನು ಕೌರವ ಸೇನೆಯನ್ನು ನೋಡಿ ಹೆದರಿ ನಗೆ ಪಾಟಲಾಗುವ ಸಂದರ್ಭವನ್ನು ವಿವರಿಸಿರಿ. **(15)**

(ಅಥವಾ)

'ಸಿರಿಯು ಕನಸಿನಂತೆ' ಕಥೆಯು ಇಹದ ಭೋಗದ ನಿಸ್ಸಾರತೆ ತಿಳಿಸುವ ರೂಪಕವಾಗಿದೆ ಹೇಗೆ ವಿವರಿಸಿರಿ.

2. ಲೋಭಕ್ಕೊಳಗಾದ ದುಷ್ಟಬುದ್ಧಿ ವಂಚಿಸಿ ತನ್ನ ಆಪ್ತಮಿತ್ರನ ಸ್ನೇಹವನ್ನಲ್ಲದೆ ತಂದೆಯನ್ನು ಕಳೆದುಕೊಂಡ ವೃತ್ತಾಂತ ವರ್ಣಿಸಿರಿ. **(15)**

(ಅಥವಾ)

ಯಾವದೇ ವರ್ಗದ ಶೋಷಣೆ ನಡೆಯುವದು ಆಯಾ ವರ್ಗದವರಿಂದಲೇ ಎಂಬ ಸ್ವಾರಸ್ಯ ಪ್ರಾಮಾಣಿಕತೆ ಕಥೆಯಿಂದ ವಿವರಿಸಿರಿ.

3. **ಬೇಕಾದ ನಾಲ್ಕಕ್ಕೆ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.** **(4×5=20)**

a. ತುಳಸಿಕಟ್ಟೆ

b. ಬಿದಿರಬಾಲೆ

c. ಅಕ್ಕ-ತಂಗಿ

d. ಸಿದ್ದೇಶ್ವರ ಸ್ವಾಮಿಗಳು

e. ಅ.ರಾ.ಮಿತ್ರ

f. ಚನ್ನವೀರಪ್ಪ – ಗೌರಮ್ಮ ದಂಪತಿಗಳು

4. **ಬೇಕಾದ ಮೂರಕ್ಕೆ ಸಂದರ್ಭದೊಡನೆ ಸ್ಪಷ್ಟೀಕರಿಸಿರಿ.** **(3×5=15)**

a. 'ಸಿಲುಕದಿರಿ ಮತವೆಂಬ ಮೋಹದ ಜ್ಞಾನಕ್ಕೆ'

b. 'ತಳೆಯಿರಿ ಮೈತ್ರಿಯ ತುಳಿಯಿರಿ ವೈರಿಯ'

c. 'ಮುತ್ತಿನಂಥ ಅಕ್ಷರ ಕೆಲವರದು ಈತನದೋ ಶುದ್ಧ ವೈದ್ಯ ಲಿಪಿ'

P.T.O.

d. 'ನಿಮಗ ನಿದ್ದಿ ಬೇಸು ಬಂತೋ ಇಲ್ಲೊ'

e. 'ನೋಡು, ನಿನ್ನ ಥರ್ಡ್‌ಕ್ಲಾಸ ಗ್ರೂಪ್ ಮೊದಲು ಬಂದು ಬಿಟ್ಟಿತಲ್ಲ'

5. ಒಂದೇ ವಾಕ್ಯದಲ್ಲಿ ಉತ್ತರಿಸಿರಿ. **(1×15=15)**

a. ಕುಮಾರವ್ಯಾಸ ಭಾರತದ ಪರ್ಯಾಯ ಹೆಸರುಗಳೇನು ?

b. ಎಲ್ಲರು ಮಾಡುವದು ಹೊಟ್ಟೆಗಾಗಿ ಎಂದವರಾರು ?

c. ಕುವೆಂಪು ಅವರ ಸಂದೇಶ ಯಾವುದು ?

d. ಭುಜೇಂದ್ರ ಮಹೀಶವಾಡಿಯವರ ಪಿ.ಎಚ್.ಡಿ. ಮಹಾ ಪ್ರಬಂಧ ಯಾವುದು ?

e. ಬಿ.ಎ. ಸನದಿಯವರ ಪೂರ್ಣ ಹೆಸರೇನು ?

f. ಬಿದಿರಬಾಲೆ ಕವಿತೆ ಬರೆದವರಾರು ?

g. ಅಕ್ಕ-ತಂಗಿ-ಗೆಳತಿ ತ್ರಿಪದಿಯ ಸಂಪಾದಕರಾರು ?

h. ಪಂಚ ತಂತ್ರದ ಕರ್ತೃ ಯಾರು ?

i. ಸಿದ್ದೇಶ್ವರ ಶ್ರೀಗಳ ವಾಸಸ್ಥಾನ ಯಾವುದು ?

j. ಪ್ರಾಮಾಣಿಕತೆ ಪಾಠದ ಲೇಖಕರಾರು ?

k. ಅ.ರಾ.ಮಿತ್ರರ ಪೂರ್ಣ ಹೆಸರೇನು ?

l. ಅಮರೇಶ ನುಗಡೋಣಿಯವರ ಜನ್ಮಸ್ಥಳ ಯಾವುದು ?

m. ಒಪ್ಪಂದದ ಮದುವೆ ಲೇಖಕರಾರು ?

n. ಒಂದು ಫೋಟೋದ ನೆಗೆಟಿವ್ ಲೇಖಕರಾರು ?

o. ಮಲ್ಲಿಕಾರ್ಜುನ ಹುಲಗಬಾಳಿಯವರ ಲೇಖನ ಯಾವುದು ?

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32323/C230

Reg. No. | | | | | | | | |

III Semester BCA 3 (U.G) Degree Examination, Nov./Dec. - 2019

DMS DISCRETE MATHEMATICAL STRUCTURES

(Repeater)

Paper : Theory (BCA 3)

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1. Scientific calculators are not allowed.
2. Simple calculators are allowed.

PART - A

Answer **any 10** questions: **(10×2=20)**

1. a) If $A=\{a,b;c,d\}$ and $B=\{a,c,e,f,g\}$ then compute

i. $A-B$ ii. $A\Delta B$ or $A\oplus B$

b) State pigeonhole principle.

c) Define negation with truth table.

d) Find the truth value $q\rightarrow(p\vee q)$ given that p is true and q is false.

e) Define well ordered principle.

f) Write recursive formula for the sequence 3, 7, 11, 15, 19 .....

g) Find the G.C.D. of 540 and 504.

h) List all the partitions of $A=\{1,2,3\}$.

i) Define equivalence relation.

j) Define permutation.

k) Let function $f:R\rightarrow R$ defined by $f(x)=2x^2+x+1$, determine images of the subset $A_1=\{-1,2\}$ of R.

l) Consider the function f and g, defined by $f(x)=x^3$ and $g(x)=x^2+1$ find gof.

PART - B

Answer **any 4** questions of the following: **(4×5=20)**

2. Explain any four set operations with Venn diagram.

P.T.O.

3. Let $A=\begin{bmatrix}1&0&1\\0&1&1\\0&1&1\end{bmatrix}$ and $B=\begin{bmatrix}0&1&1\\1&0&1\\0&1&0\end{bmatrix}$ compute:

   i. $A \vee B$ ii. $A \wedge B$

4. Construct truth table of $(p \vee \sim q) \rightarrow \sim r$

5. Prove by method of mathematical induction $1+2+3+\text{----------}+n=n(n+1)/2$.

6. Find the GCD of 495 and 675. Express it in the form $495a+675b$.

7. Let $A=\{a,b,c,d,e\}$ and $R=\{(a,a),(a,c),(a,d),(b,b),(c,d),(d,d)\}$ compute

   i. $\overline{R}$ ii. R^c

PART - C

Answer **any 4** questions of the following: **(4×10=40)**

8. a) If one integer is selected at random from integers 1 to 15, if A is the event that a number selected is even and B is the event that a number selected is divisible by 3. Find $P(A \vee B)$.

   b) Find the number of permutations of the letters of the word "ENGINEERING". In how many arrangements the 3E's are together? **(5,2+3)**

9. State any Five rules of inference along with their names. **(10)**

10. State and prove the fundamental theorem of Arithmetic. **(10)**

11. Explain the properties of Relations. **(10)**

12. a) Let $A=\{1,2,3\}$ and $P_1=\begin{pmatrix}1&2&3\\3&1&2\end{pmatrix}$, $P_2=\begin{pmatrix}1&2&3\\2&1&3\end{pmatrix}$, $P_3=\begin{pmatrix}1&2&3\\2&3&1\end{pmatrix}$ compute

   i. P_1^{-1} ii. $P_3 o P_2$

   b) Let $f(n)=3n^3-2n^2$ and $g(n)=2n^4$ be defined for positive integers n. Then show that f and g have the same order. **(5+5)**

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41321/C210

Reg. No. | | | | | | | | |

III Semester BCA.4 Degree Examination, Nov./Dec. - 2019
DISCRETE MATHEMATICAL STRUCTURES
(Regular)
PAPER : BCA 4

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates: Scientific calculators are allowed.

SECTION - A

Answer **All** the questions: **(10×2=20)**

1. a) Define Tautology with truth table.

b) Define Quantifiers.

c) If $U=\{1,2,3,4,5,6,7,8,9\}$, $A=\{1,3,5,6\}$ & $B=\{2,3,4,5\}$ find $A\Delta B$.

d) State Mathematical induction principle.

e) Define pigeonhole principle.

f) Define combination.

g) Write the recursive formula for the sequence 10,13, 16, 19, --------

h) Define semi group.

i) Define general graph.

j) Define Trees.

SECTION - B

Answer any **Four** of the following: **(4×5=20)**

2. Construct the truth table $(\sim p \wedge q) \rightarrow r$.

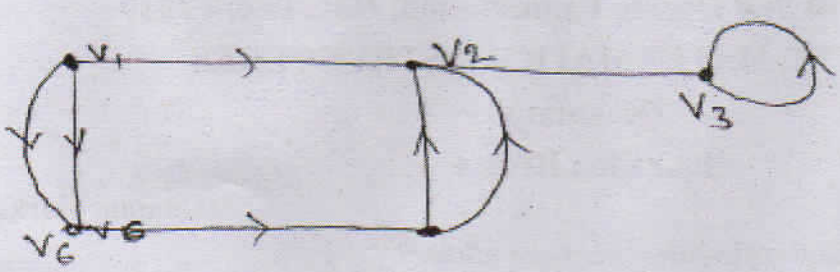
3. Define equivalence relation and verify R is an equivalence relation $A=\{1,2,3,4\}$ and $R=\{(1,1),(1,2),(2,1),(2,2),(3,4),(4,3),(3,3),(4,4)\}$

4. Let G be the set of all non-zero real numbers and let $a*b=\frac{1}{2}(ab)$. Show that $(G,*)$ is an abelian group.

5. Prove by mathematical induction for that $1^2+3^2+5^2+-----(2n-1)^2=\frac{1}{3}n(2n-1)(2n+1)$.

P.T.O.

6. Find in degree and out degree of the vertices of the digraph.



SECTION - C

Answer any **Four** questions of the following: **(4×10=40)**

7. a) Give a direct proof of the statement "The Square of an odd integer is an odd integer".

   b) State any 5 rules of Inference along with their names. **(5+5=10)**

8. a) Write any 4 properties of the relations.

   b) $A=\{1,2,3,4\}$ and let R be the relation on A defined by $R=\{(1,1),(1,2),(1,3),(1,4),(2,2),(2,4),(3,3),(4,4)\}$. Represent the relation R as matrix & draw its diagraph. **(5+5=10)**

9. a) If $a=\{0,1,2,3,4,5,6\}$ construct addition table for $(+Z_7)$.

   b) Define subgroup & monoid group. **(5+5=10)**

10. a) Find the number of permutations of the letters of the word "MASSASAUGA". In how many of these all four A's are together? And how many of them begin with S?

    b) Prove that $|A\cup B\cup C|=|A|+|B|+|C|-|A\cap B|-|B\cap C|-|A\cap C|+|A\cap B\cap C|$ **(5+5=10)**

11. Define any 4 of the following terms: **(10)**

    i) Graph

    ii) Complete Graph

    iii) Isomorphism

    iv) Regular Graph

    v) Complement of Graph

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41323/C230

Reg. No. | | | | | | | | |

III Semester B.C.A. 4 Degree Examination, Nov./Dec. - 2019

OPERATING SYSTEM PRINCIPLES

(Regular)

PAPER : BCA 4

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1. **Draw the diagrams wherever necessary.**
2. **Simple calculators are permitted.**

SECTION- A

I. Answer all **Ten** questions: **(10×2=20)**

1. a) What is Virtual Machine?

b) List the goals of operating system.

c) Define process. List the states of a process.

d) What is Context Switch?

e) Define Deadlock.

f) What is Race condition?

g) Define Fragmentation.

h) What is memory management unit?

i) List the different file types.

j) What is rotational latency?

SECTION - B

II. Answer any **4** questions: **(4×5=20)**

2. Discuss multiprocessor system concept.

3. With neat diagram explain Process Control Block (PCB)

4. Explain characteristics of Deadlock.

5. Explain the following algorithms:

i) First Fit

ii) Best fit

iii) Worst Fit

6. Discuss Different File attributes.

P.T.O.

SECTION- C

III. Answer any **4** of the following: **(4×10=40)**

7. Consider the Following set of process with CPU Burst time given in milliseconds.

Process	Burst time
P_1	7
P_2	3
P_3	5
P_4	1
P_5	4

Process are arrived in P1, P2, P3, P4, P5 order of all at time 0.

1) Draw a Gantt chart to show execution using FCFS and Round Robin (quantum=1 ms) Scheduling.
2) Calculate average waiting time for FCFS and Round Robin Scheduling.
3) Calculate average turn around time for FCFS and Round Robin Scheduling. **(2+4+4)**

8. a) Explain FIFO, OPR page replacement algorithms.

$[1,2,3,4,2,1,5,6,2,1,2,3,7,6,3,2,1,2,3,6]$

b) Explain how to implement free space management using Bit Vector method. **(7+3)**

9. a) Explain Dining philosopher problem.

b) Explain paging with neat diagram.

10. a) Explain Services of operating System.

b) With a neat diagram explain contiguous allocation method. **(5+5)**

11. a) Discuss the Benefits of threads.

b) What are the operations on file. **(5+5)**

41322/C220

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III Semester BCA 4 Degree Examination, Nov/Dec - 2019
OBJECT ORIENTED PROGRAMMING USING JAVA
(Repeater/Regular)
Paper - BCA 4

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1. *All sections are compulsory.*
2. *Draw a neat diagram wherever necessary.*
3. *Write Question Numbers neatly & correctly.*

SECTION - A

Answer **ALL** the Questions: **(10×2=20)**

1. a) What is class & object?

b) Define polymorphism.

c) What is constructor?

d) Define wrapper class?

e) State access control (Modifies).

f) What do you mean by vector?

g) Define exception.

h) What is print writer?

i) What do you mean by applet?

j) State the methods of Graphics class.

SECTION - B

Answer any **FOUR** of the following: **(4×5=20)**

2. Differentiate between POP & OOPS.

3. Write a Java program to demostrate constructor overloading.

4. Write a procedure to create packages.

5. Explain Theard priority.

6. Differentiate between Applet & Applications.

P.T.O.

SECTION - C

Answer any **FOUR** of the following: **(4×10=40)**

7. Explain OOPS concepts.

8. a) Write a Java program to demostrate method overloading.

   b) Explain static keyword with data, method & block.

9. Define Interface. Write a program to demostrate multiple inheritance.

10. Explain different types of exception with example.

11. a) Explain Applet life cycle.

    b) Write an applet program to demostrate line & Rectangle.

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41324/C240

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III Semester BCA 4 Degree Examination, Nov./Dec - 2019
DATA COMMUNICATION AND COMPUTER NETWORKS
(Regular)
Paper : BCA-4

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

1) All sections are compulsory.
2) Draw neat diagrams whenever necessary.

SECTION - A

1. Answer the following questions: **(10×2=20)**

a) Define Framing.

b) What is Routing?

c) Define signal to noise ratio.

d) What is Attenuation?

e) Define Multiplexing.

f) What are the advantages of WDM?

g) Define Service Model.

h) What is sliding window protocol?

i) Define Aloha.

j) What is FDMA?

SECTION - B

Answer any **Four** of the following: **(4×5=20)**

2. Discuss Telephone Network and circuit Switching.
3. Explain Frequency Domain and Time Domain characterization.
4. Discuss Hamming code with example.
5. Differentiate Go-Back-N ARQ and Selective Repeat protocol.
6. Discuss MAC Sublayer.

P.T.O.

SECTION - C

Answer any **Four** of the following: **(4×10=40)**

7. Explain OSI Reference Model.
8. Explain the types of Digital Modulation Techniques.
9. Write a note on Twisted pair and Co-axial cable.
10. Discuss
    a) Hop by Hop protocol.
    b) End to End protocol.
11. Discuss channelization - TDMA, CDMA