Roll No. [ ]

Total No. of Questions : 07

Total No. of Pages : 02

Nov/ Dec-2023

BCA (Sem.–1)

PROBLEM SOLVING USING C

Subject Code : UGCA-1903

M.Code : 76963

Date of Examination: 12-12-2023

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

SECTION-A

1. **Write briefly :**

a) What is a variable? Illustrate with an example.

b) What is the importance of keywords in C?

c) Explain in brief about Symbolic Constants.

d) What are Nested loops?

e) What is use of switch statement in C?

f) Differentiate between Break and Continue statements.

g) Write advantages of Arrays.

h) What do you mean by function prototypes?

i) Differentiate between arrays and structures.

j) What are the uses of pointer?

SECTION-B

2. **Write a detailed note on following :**

a) Flowcharts

b) Decision Trees

3. **Explain the following Operators in C Language with suitable examples :**

a) Arithmetic

b) Unary

c) Logical

4. **Explain the following control flow statements with a suitable C program :**

a) While

b) For

5. What do you mean by Recursion? What is the use of Recursion in C programs? Write a program to find factorial of a number using Recursion.

6. Write a detailed note on various storage classes available in C language.

7. a) What is a pointer? Explain how the pointer variable its declared and initialized?

b) Write a program in C to find the sum and mean of all elements in an array using pointers.

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Total No. of Questions : 07 Total No. of Pages : 02

B.Sc. (IT)/ Graphics & Web Designing / BCA (Sem–1)

MATHEMATICS

Subject Code : UGCA1901

M.Code : 76961

Date of Examination : 20-12-2023

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

SECTION-A

1. Attempt the following :

a) Define Disjoint Set

b) If $A = \{1, 2\}$ & $B = \{2, 5\}$, find $A \cup B$.

c) Define Power set.

d) Write the negative statement of "Sun rises from east."

e) Write the truth table for Conjunction.

f) Define Square Matrix.

g) If $X = \begin{bmatrix} 2 & 3 \\ -1 & 4 \end{bmatrix}$ & $Y = \begin{bmatrix} 1 & 0 \\ -2 & 3 \end{bmatrix}$, then find $X + Y$.

h) If $A = \begin{bmatrix} -1 & 2 \\ -3 & 4 \end{bmatrix}$, Find the transpose of A.

i) Find the fourth term in the sequence 4, 9, 14, ... Of A.P.

j) Define Geometric mean.

SECTION - B

2. If $U = \{1,2,3,4,5,6,7,8,9\}$, $X = \{1,2,7,8\}$ & $Y = \{2,5,8,9\}$. Find $X \cap Y$, $X - Y$, Y

3. Prove that : $p \wedge (q \vee r) = (p \vee q) \vee (p \wedge r)$.

4. If $X = \begin{bmatrix} 5 & 2 & -3 \\ 1 & 0 & 6 \\ -5 & 1 & 7 \end{bmatrix}$, $Y = \begin{bmatrix} 3 & -2 & 6 \\ 2 & 7 & -1 \\ 5 & 4 & 0 \end{bmatrix}$, then find XY.

5. If $A = \begin{bmatrix} 4 & 2 & -3 \\ 1 & 3 & -6 \\ -5 & 0 & -7 \end{bmatrix}$, $B = \begin{bmatrix} 0 & -2 & -1 \\ 1 & 3 & 0 \\ -5 & 0 & -7 \end{bmatrix}$, then find $4A - 3B$.

6. The 7th term of an A.P. is 20 and its 13th term is 32. Find the A.P.

7. The 3rd and 8th term of a G.P. are 4 and 128 resp. Find the G.P.

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Total No. of Questions : 07

Total No. of Pages : 02

B.Sc. (IT/ Graphics & Web Designing)/ BCA (Sem.–1)

FUNDAMENTALS OF COMPUTER AND IT

Subject Code : UGCA1902

M.Code : 76962

Date of Examination : 22-12-2023

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

SECTION-A

1) **Write briefly :**

a) What is primary memory?

b) What is control panel?

c) What is the difference between System and Application software?

d) What is the difference between save and save as?

e) What is Booting Process?

f) Explain system bus.

g) Write the name of 5 components that we mostly see on a Motherboard.

h) Discuss use of Motherboard.

i) What for find and replace is used in Word?

j) Define cache memory.

SECTION-B

2. a) What is the difference between primary and secondary memory?

   b) What is the difference between a ROM and RAM?

3. What are the different types of charts in MS-Excel? And write steps to insert chart in Excel Sheet.

4. a) Convert $(A0B4)_{16}$ to $(?)_2$, $(?)_8$, $(?)_{10}$.

   b) Explain the printing mechanism of a laser printer.

5. a) What is the role of IT in education?

   b) Explain input and output devices.

6. **Write short note on :**

   a) Describe the complete process of Mail Merge.

   b) What is cell reference? Explain its advantages.

Explain Electronic Payment and various methods of electronic payment.

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B.Voc.(Beauty Therapy and Aesthetics)/BA(J&MC)/ BBA/ BBA(SIM)/ B.Com. Hons./ BCA/BHMCT/ B.Sc.(Honours)/ B.Sc.(Nutrition & Dietetics)/ B.Sc.(AI&ML)/B.Sc. Biotechnology/B.Sc.(FD) /B.Sc.(Graphics & Web Designing) B.Sc.(IT)/ B.Sc.(MLS)/ BTTM (Sem.- 1)

ENGLISH

Subject Code : BTHU103-18

M.Code : 75085

Date of Examination: 01-01-2024

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. All questions are COMPULSORY.
2. Q1, Q2 and Q3 carry TEN marks each.
3. Q4 and Q5 carry FIFTEEN marks each.

1. Elaborate theory of communication.
2. Differentiate in detail between personal and business communication.
3. **Read the following passage carefully and answer the questions that follow :**

Certain people consciously or unconsciously cherish the desire that some part of their work and of their accomplishment will outlive their own individual life. The influence which they have exercised on the world in which they lived, the concern which they have built up, the books which they have written, the work they have laid as a part of some scientific edifice, whose completion they themselves will not live to see all such things inspire the people that some aspect of themselves will outlast their own personal existence, the artist bequeaths his pictures, the scholar his contribution of knowledge while poets and composers are primarily concerned that posterity shall take pleasure in their creations. Statesmen envisage that particular agreement in whose development they themselves had played a crucial part will preserve their names for future generations. People are not unconcerned for their posthumous reputation. An old person is distinctly preoccupied with this question and keeps a zealous watch to ensure that his achievement is properly quoted and recorded.

a) What do certain people cherish about?

b) What does a statesman envisage?

c) What do old people do?

d) Use "edifice" and "bequeaths" in your own sentences.

e) Give main idea of the passage.

4. Write a letter to your friend about how to prevent youth from addiction to drugs. Discuss specifically what steps the society can take.
5. Draft a report on environmental pollution and how can we save the environment.

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Total No. of Questions : 11

BBA / B.Com (Hons) / BCA / BHMCT / B.Sc. Hons. (Microbiology / AI & Machine Learning / Bio Technology / Fashion Design / Graphics & Web Designing / IT / Medical Lab Sciences / Operation Theatre Technology)/ BTTM / M.Com (Sem.–1)

HUMAN VALUES, DE-ADDICTION & TRAFFIC RULES

Subject Code : HVPE-101-18

M.Code : 75087

Date of Examination : 04-01-24

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is compulsory.**
2. **SECTION-B contains FIVE questions. Each question carry FOUR marks. Attempt All.**
3. **SECTION-C contains FIVE questions with internal choice. Each question carry SIX marks. Attempt All.**

SECTION-A (10 × 1 = 10)

1. **Answer the following :**

a. What is value education?
मूल्य शिक्षा क्या है?
ਮੁੱਲ ਸਿੱਖਿਆ ਕੀ ਹੈ?

b. What is prosperity?
समृद्धि क्या है?
ਖੁਸ਼ਹਾਲੀ ਕੀ ਹੈ?

c. What do you mean by physical facilities?
भौतिक सुविधाओं से आप क्या समझते हैं?
ਭੌਤਿਕ ਸਹੂਲਤਾਂ ਤੋਂ ਤੁਹਾਡਾ ਕੀ ਮਤਲਬ ਹੈ?

d. What is coexistence?
सह-अस्तित्व क्या है?
ਸਹਿਹੋਂਦ ਕੀ ਹੈ?

e. What is an all-encompassing solution?
सर्वव्यापी समाधान क्या है?
ਇੱਕ ਸਰਵਭੌਮਿਕ ਹੱਲ ਕੀ ਹੈ?

f. What is self regulation?
स्वनियमन क्या है?
ਸਵੈ ਨਿਯਮ ਕੀ ਹੈ?

g. Differentiate between fame and respect.
प्रसिद्धि और सम्मान के बीच अंतर करें।
ਪ੍ਰਸਿੱਧੀ ਅਤੇ ਇੱਜ਼ਤ ਵਿਚਕਾਰ ਫ਼ਰਕ ਕਰੋ।

h. What is Animal Order?
जीव आदेश क्या है?
ਜੀਵ ਆਦੇਸ਼ ਕੀ ਹੈ?

i. What is Mutual Prosperity?
पारस्परिक समृद्धि क्या है?
ਆਪਸੀ ਖੁਸ਼ਹਾਲੀ ਕੀ ਹੈ?

j. What is Utility-Value?
उपयोगिता-मूल्य क्या है?
ਉਪਯੋਗਿਤਾ-ਮੁੱਲ ਕੀ ਹੈ?

SECTION-B (5 × 4 = 20)

2. Write a short note on the concept of preservation.
संरक्षण की अवधारणा पर संक्षिप्त टिप्पणी लिखिए।
ਸੰਭਾਲ ਦੀ ਧਾਰਨਾ 'ਤੇ ਛੋਟਾ ਨੋਟ ਲਿਖੋ।

3. Explain harmony in family.
परिवार मे तालमेल के बारे में बताएं।
ਪਰਿਵਾਰ ਵਿੱਚ ਤਾਲਮੇਲ ਦੇ ਬਾਰੇ ਵਿੱਚ ਦੱਸੋ।

4. How there is Recyclability and Self-Regulation in Nature?
प्रकृति में आत्म नियमन और पुनरावृत्ति कैसे है?
ਕੁਦਰਤ ਵਿੱਚ ਆਤਮ-ਨਿਯਮਤਾ ਅਤੇ ਚੱਕਰੀ-ਕ੍ਰਮ ਕਿਵੇਂ ਹੈ?

5. What are the basic guidelines of value education?
मूल्य शिक्षा के बुनियादी दिशानिर्देश क्या है?
ਮੁੱਲ ਸਿੱਖਿਆ ਦੇ ਬੁਨਿਆਦੀ ਦਿਸ਼ਾਨਿਰਦੇਸ਼ ਕੀ ਹਨ?

6. What can be the basis of undivided society-the 'world family'?
अखण्ड समाज-'विश्व परिवार' का आधार क्या हो सकता है?
ਅਣਵੰਡੇ ਸਮਾਜ-'ਸੰਸਾਰ ਪਰਿਵਾਰ' ਦਾ ਆਧਾਰ ਕੀ ਹੋ ਸਕਦਾ ਹੈ?

SECTION-C (6 × 5 = 30)

7. Right understanding in the individuals is a basis for harmony in the family. Which is the building block for harmony in society? Give your comments.
व्यक्तियों में सही समझ ही परिवार में सामंजस्य का आधार है। समाज में समरसता का आधार कौन सा है? अपनी टिप्पणियाँ दीजिये।

ਵਿਅਕਤੀਆਂ ਵਿੱਚ ਸਹੀ ਸਮਝ ਪਰਿਵਾਰ ਵਿੱਚ ਸਦਭਾਵਨਾ ਦਾ ਆਧਾਰ ਹੈ। ਸਮਾਜ ਵਿੱਚ ਸਦਭਾਵਨਾ ਦਾ ਨਿਰਮਾਣ ਬਲਾਕ ਕਿਹੜਾ ਹੈ? ਆਪਣੀਆਂ ਟਿੱਪਣੀਆਂ ਦਿਓ।

OR

What is the need of Value-Education?
ਮੁਲਯ ਸਿਖਿਆ ਦੀ ਕੀ ਲੋੜ ਹੈ?

ਮੁੱਲ ਸਿੱਖਿਆ ਦੀ ਕੀ ਲੋੜ ਹੈ?

8. Critically examine the state of society today in context with fulfillment of the comprehensive human goal.
व्यापक मानवीय लक्ष्य की पूर्ति के संदर्भ में आज समाज की स्थिति का आलोचनात्मक परीक्षण करें।

ਵਿਆਪਕ ਮਨੁੱਖੀ ਟੀਚੇ ਦੀ ਪੂਰਤੀ ਦੇ ਸੰਦਰਭ ਵਿੱਚ ਅੱਜ ਸਮਾਜ ਦੀ ਸਥਿਤੀ ਦੀ ਗੰਭੀਰਤਾ ਨਾਲ ਜਾਂਚ ਕਰੋ।

OR

How is a human-being co-existence of Self and Body? Explain Pre-Conditioning, Sensation and Natural-Acceptance.
ज्ञेता स्वयं और शरीर का सह-अस्तित्व कैसे है? पूर्व-धारणा, संवेदना और प्राकृतिक-स्वीकृति समझाओ।

ਮਨੁੱਖ ਸਵੈ ਅਤੇ ਸਰੀਰ ਦਾ ਸਹਿ-ਅਸਤਿਤਵ ਕਿਵੇਂ ਹੈ? ਪੂਰਵ-ਮਾਨਤਾ, ਸੰਵੇਦਨਾ ਅਤੇ ਸਹਿਜ-ਸਵੀਕ੍ਰਿਤੀ ਸਮਝਾਓ।

9. Compare the Four Orders in Nature on the basis of their salient aspects.
मुख्य पहलुओं के आधार पर प्रकृति में चार आदेशों की तुलना करें।

ਮੁੱਖ ਪਹਿਲੂਆਂ ਦੇ ਆਧਾਰ ਉੱਤੇ ਕੁਦਰਤ ਵਿੱਚ ਚਾਰ ਆਦੇਸ਼ਾਂ ਦੀ ਤੁਲਨਾ ਕਰੋ।

OR

What do you mean by reaction and response? Give some examples.
आपका प्रतिक्रिया और अनुक्रिया से क्या मतलब है? कुछ उदाहरण दें।

ਤੁਹਾਡਾ ਪ੍ਰਤੀ-ਕਿਰਿਆ ਅਤੇ ਪ੍ਰਤੀ-ਕਿਰਿਆ ਤੋਂ ਕੀ ਮਤਲਬ ਹੈ? ਇਸ ਦੇ ਕੁਝ ਉਦਾਹਰਣ ਦਿਓ?

10. What is happiness and prosperity? What are the wrong notions about attaining happiness and prosperity?
सुख और समृद्धि क्या हैं? सुखी और समृद्धि को प्राप्त करने के बारे में गलत धारणा क्या है?

ਖੁਸ਼ੀ ਅਤੇ ਖੁਸ਼ਹਾਲੀ ਕੀ ਹੈ? ਖੁਸ਼ੀ ਅਤੇ ਖੁਸ਼ਹਾਲੀ ਨੂੰ ਪ੍ਰਾਪਤ ਕਰਨ ਦੇ ਬਾਰੇ ਗਲਤ ਧਾਰਨਾ ਕੀ ਹੈ?

OR

What are the problems faced due to the wrong notions about happiness and prosperity?
सुख और समृद्धि के बारे में गलत धारणाओं के कारण पैदा आ रही समस्याएं क्या हैं?

ਖੁਸ਼ੀ ਅਤੇ ਖੁਸ਼ਹਾਲੀ ਦੇ ਬਾਰੇ ਗਲਤ ਧਾਰਣਾਵਾਂ ਦੇ ਕਾਰਨ ਕੀ ਸਮੱਸਿਆਵਾਂ ਪੈਦਾ ਆ ਰਹੀਆਂ ਹਨ?

11. Draw the chart showing in detail, the different categories of units of nature in coexistence in space. What is your role in existence?
अंतरिक्ष में सह-अस्तित्व में प्रकृति की इकाइयों की विभिन्न श्रेणियों को विस्तार से दर्शाने वाला चार्ट बनाएं। अस्तित्व में आपकी क्या भूमिका है?

ਪੁਲਾੜ ਵਿੱਚ ਸਹਿ-ਹੋਂਦ ਵਿੱਚ ਕੁਦਰਤ ਦੀਆਂ ਇਕਾਈਆਂ ਦੀਆਂ ਵੱਖ-ਵੱਖ ਸ਼੍ਰੇਣੀਆਂ ਨੂੰ ਵਿਸਤਾਰ ਵਿੱਚ ਵਿਖਾਉਂਦੇ ਹੋਏ ਚਾਰਟ ਬਣਾਓ। ਹੋਂਦ ਵਿੱਚ ਤੁਹਾਡੀ ਕੀ ਭੂਮਿਕਾ ਹੈ?

OR

What in your opinion, is an effective way of ensuring prosperity in the family? What programs can you undertake in this respect?
आपकी राय में, परिवार में समृद्धि सुनिश्चित करने का एक प्रभावी तरीका क्या है? इस संबंध में आप कौन से कार्यक्रम अपना सकते हैं?

ਤੁਹਾਡੇ ਵਿਚਾਰ ਵਿੱਚ, ਪਰਿਵਾਰ ਵਿੱਚ ਖੁਸ਼ਹਾਲੀ ਨੂੰ ਯਕੀਨੀ ਬਣਾਉਣ ਦਾ ਇੱਕ ਪ੍ਰਭਾਵਸ਼ਾਲੀ ਤਰੀਕਾ ਕੀ ਹੈ? ਇਸ ਸੰਬੰਧ ਵਿਚ ਤੁਸੀਂ ਕਿਹੜਾ ਪ੍ਰੋਗਰਾਮ ਲੈ ਸਕਦੇ ਹੋ?

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Total No. of Pages : 02

Nov/Dec 2023

BCA (Sem.–2)

FUNDAMENTALS OF STATISTICS

Subject Code : UGCA-1907

M.Code : 77415

Date of Examination: 17-11-2023

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

SECTION-A

1. Answer briefly :

a) Differentiate between primary data and secondary data.

b) How will you check the authenticity of secondary data?

c) *"Statistics can prove anything"* Discuss this statement.

d) Give formula to calculate mean, median and mode in individual discrete and continuous series.

e) Which method of Central tendency out of mean, median and mode do you consider to be the best and why?

f) The daily pocket allowance (in Rs) of 10 students is given below:

15	20	30	22	25	18	40	50	55	65

Calculate the A.M. by taking 40 as assumed mean.

g) Write down the formula to calculate D_7 and P_{45} in continuous series.

h) List down the merits and demerits of Median.

i) Importance of measure of Dispersion.

j) What is meant by Coefficient of Variation? What is its usefulness?

SECTION-B

2. *"Statistics affects everybody and touches life at every place"* discuss the importance of statistics in light of the above stated statement.

3. Explain the various methods for collecting primary data and secondary data.

4. **From the following data construct histogram and frequency polygon:**

Life of bulbs(in hrs)	800 to 1000	1000 to 1200	1200 to 1400	1400 to 1600	1600 to 1800	1800 to 2000	2000 to 2200
No. of bulbs	6	10	24	30	20	6	4

5. A class of 16 boys and 16 girls were given a common intelligence test and the following marks were obtained :

Sr. No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Boys	15	35	43	46	48	48	49	50	55	56	60	64	71	75	80	85
Girls	10	30	45	52	55	58	61	61	63	69	70	72	74	75	75	90

Calculate the Median marks of boys and girls.

6. Calculate the Mode for the following data:

Class	20-24	25-29	30-34	35-39	40-44	45-49
Frequency	3	6	5	14	7	8

7. Compute standard deviation from:

Marks	Less than 10	20	30	40	50	60
No. of Females	8	12	20	26	35	50

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BCA (Sem.–2)

COMPUTER SYSTEM ARCHITECTURE

Subject Code : UGCA-1908

M.Code : 77416

Date of Examination : 21-11-2023

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**

SECTION-A

1. **Write briefly :**

   a) What are the various units of Digital Computer?

   b) Explain AND and NOT gate with example.

   c) What is Bus?

   d) What is Shift register?

   e) What is JK flip flop, explain with example?

   f) What is register?

   g) What are USB interfaces?

   h) What are the various types of operations required for instructions?

   i) What are memory reference instructions?

   j) What are K-Maps?

SECTION-B

2. Differentiate between RISC and CISC Architecture.
3. Draw and explain Full Adder and Full subtractor with example.
4. Explain Implementation of Boolean equations with Multiplexer.
5. Draw and explain D Flip flop and T Flip Flop.
6. Discuss in detail, the basic concepts of instructions and its executions.
7. Explain the three types of Buses in Computer architecture.

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Total No. of Questions : 07

BCA (Sem.–2)

OBJECT ORIENTED PROGRAMMING USING C++

Subject Code : UGCA-1909

M.Code : 77417

Date of Examination : 23-11-2023

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**

SECTION-A

1. **Explain :**

   a) What is the basic structure of a C++program?

   b) What are the steps involved in execution of a C++program?

   c) What is difference between procedural and object oriented programming language?

   d) Differentiate between Private and Protected access specifiers.

   e) What is a destructor?

   f) What is difference between multiple and multilevel inheritance?

   g) Which operators of C++ cannot be overloaded?

   h) What do you mean by pure virtual function?

   i) What is binding and its types in C++?

   j) What are the various methods of opening files in C++?

SECTION-B

2. What is Object Oriented Programming? Explain in detail the different features of Object Oriented Programming.

3. What is a class? What is the relation between an object and a class? Write a program which shows how to define a class, how to access member functions and how to create and access objects in C++?

4. What do you mean by constructor? What are various types of constructors? Discuss in detail.

5. Define Inheritance. What are the various types of inheritances? Explain giving suitable examples.

6. What do you mean by operator overloading? How can you overload unary and binary operators? Explain giving suitable examples.

7. **Explain the following :**

   a) Late binding

   b) Virtual functions

   c) Abstract class

   d) Reading and writing a File.

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BCA / B.Sc. (IT) ...

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BCA (Sem.–2)

ENVIRONMENTAL STUDIES

Subject Code : EVS-102-18

M.Code : 77421

Date of Examination : 28-11-23

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

SECTION-A

1. **Write briefly :**

   a) Why is public awareness important in environmental management?

   b) Define ecosystem. List the components of an ecosystem.

   c) Define Biodiversity. Why do we need to conserve it?

   d) List the effects of thermal pollution.

   e) Differentiate between primary and secondary air pollutants, give two examples of each.

   f) List any four strategies for urban water conservation.

   g) What are the causes of acid rain?

   h) List the mitigation measures of earth quake as a natural disaster.

   i) List any four issues associated with effective implementation of environmental laws in India.

   j) What is meant by population explosion?

SECTION-B

2. Sketch and explain the concept of ecological pyramid in Lake Ecosystem.

3. What are e-wastes? Explain the different types. How do you relate it to the urban consumerism?

4. Explain the strategies for effective solid waste management in your campus. Identify the different types of wastes, work out typical quantities and suggest possible final disposal methods.

5. Discuss the concept of sustainable development. Propose a strategy to implement the same in any developmental activity.

6. Discuss the environmental effects of urban transport. Consider the vehicular exhaust as a source of air pollution and explain the effects of the specific pollutants.

7. *"Developing or underdeveloped countries cannot afford the luxury of environmental conservation"*. Critically comment.

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Total No. of Questions : 07

BCA / B.Sc. (IT) (Sem–3)

DATA STRUCTURES

Subject Code : UGCA-1915

M.Code : 93333

Date of Examination : 23-12-2023

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**

SECTION-A

1. **Answer briefly :**

   a) What do you mean by an Algorithm?

   b) What is difference between static and dynamic memory allocation?

   c) What is a Pointer?

   d) Explain PUSH and POP algorithm in a Stack.

   e) What is the difference between Stack and Queue?

   f) How double linked list is different from circular linked list?

   g) What are various methods of tree traversal?

   h) What is the purpose of the shortest path algorithms in a graph?

   i) What is linear search?

   j) List various collision resolution techniques in Hashing.

SECTION-B

2. a) What do you mean by Data Structure? Explain various categories of Data Structure.

   b) What do you mean by an Array? Differentiate between one dimensional and multi-dimensional arrays.

3. Define Queue. What are different types of queues? Explain insertion and deletion algorithms for a simple queue.

4. What do you mean by a Linked List? Discuss the representation of linked list in memory and basic operations of the Linked Lists.

5. **Write short notes on the following :**

   a) Binary Tree

   b) Binary Search Tree

   c) Complete Binary Tree

   d) B-Tree.

6. a) What do you mean by Graph? What are various methods for graph traversal?

   b) Define Hashing. What are the different methods of computing Hash function?

7. What do you mean by Sorting? What are the various sorting methods? Discuss any one in detail with the help of an example.

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BCA (Sem–3)

PC ASSEMBLY AND TROUBLESHOOTING

Subject Code : UGCA1919

M.Code : 93334

Date of Examination : 15-12-2023

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

SECTION-A

1. **Write briefly :**

a) Discuss the purpose of BIOS in a Computer System.

b) What is the basic functionality of Arithmetic Logic Unit (ALU)?

c) Explain briefly about peripheral devices.

d) Discuss some problems that can occur in memory and how can they be addressed?

e) Write various steps to configure and upgrade a microcomputer.

f) Discuss briefly about various types of motherboards.

g) Mention briefly the steps required for sharing a printer on a Local Area Network (LAN) in a linux environment.

h) What is the role of device drivers in a computer system?

i) How do you troubleshoot a failed boot before an operating system is loaded?

j) Name a tool to diagnose hardware problems.

SECTION - B

2. Proviples camples of some common peripheral devices and explain how are they connoe cono the computers to enhance the functionality?

3. Whatre? Dtware? Differentiate between system software, application software and utility softwhe helth the help of examples.

4. Discus symrious symptoms in reference to motherboard related issues. Also discuss the key shouldhat should be taken to resolve these issues.

5. Discule of c role of device drivers in the operation of printers and scanners. Differentiate betwent tyfferent types of drivers and explain when to usc each type.

6. Explaocess : process of booting. Discuss various types of booting along with advantages and li of easons of each and how do they impact the system startup?

7. Descus apprious approaches of installing and supporting I/O devices. In reference to I/O devics advscuss advantages and disadvantages of wired and wireless I/O devices.

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BCA/B.Sc. (IT) (Sem.–3)

PROGRAMMING IN PYTHON

Subject Code : UGCA1914

M.Code : 78180

Time : 3 Hrs.

Date of Examination : 19-12-2023

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

SECTION-A

1. **Write briefly :**

a) What is the significance of environment variables while installing Python?

b) Explain the concept of multiple assignments.

c) Explain briefly about scope and lifetime of a variable.

d) Write various use cases of Python data types.

e) Differentiate between a tuple and a list.

f) Explain anonymous function with the help of an example.

g) What is the difference between a module and a package?

h) Discuss the concept of 'raising' exceptions in Python and provide an example of how it can be used.

i) What is the purpose of the tell() and seek() methods in file handling?

j) Explain the concept of garbage collection in Python and its role in managing memory.

SECTION-B

2. What are the various features of Python? Discuss various advantages and limitations associated with it along with the applications.

3. Discuss Python's native data types. Provide insights into their features and detail methods and operations for manipulating these types.

4. What is a function? Explain different ways in which arguments can be passed to a function highlighting the advantage and disadvantage of each.

5. Explain the concept of file handling addressing the modes, attributes, encoding, opening and closing of files. Discuss how file pointers can be moved in the files using built-in functions to read/write data from/into files?

6. Explain the benefits associated with the concept of object-oriented programming over procedural language.

7. What are control statements? Explain break, continue and pass statements with the aid of an example.

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Total No. of Questions : 07

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BCA (Sem.–3)

COMPUTER NETWORKS

Subject Code : UGCA-1913

M.Code : 78179

Time : 3 Hrs.

Date of Examination : 21-12-2023

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

SECTION-A

1. **Write briefly :**

a) Differentiate between Circuit Switching and Packet Switching.

b) Write at least two advantages of Ring topology.

c) Explain in brief about leased lines.

d) Explain the term Noise and Distortion in reference to transmission impairments.

e) Explain the term Flow Control in Data link layer.

f) What is the need of Error detection? Explain in brief.

g) Why do we need congestion control?

h) Write at least two advantages of Token Bucket algorithm.

i) Explain in brief about TCP protocol.

j) Explain the term Cryptography in reference to presentation layer.

SECTION-B

2. **Explain the following network topologies along with their advantages and disadvantages:**

a) Star

b) Bus

c) Mesh

3. **Write a detailed note on following Wired transmission**

a) Coaxial cables

b) Optical Fiber transmission

4. Explain in detail about the error detection and correction code.

5. **Explain the following protocols in detail :**

a) SLIP

b) PPP

6. a) Explain CSMA/CD in detail.

b) Write a detailed note on Congestion control policies.

7. **Write a detailed note on following in reference to Transport layer :**

a) Connection Establishment and release

b) Flow control and buffering.

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BCA (Sem–4)

SOFTWARE ENGINEERING

Subject Code : UGCA1921

M.Code : 79725

Date of Examination : 20-11-2023

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

SECTION-A

1. **Write briefly :**

a) What is the primary goal of process models in software engineering?

b) What are the primary goals of structured analysis in the context of software design?

c) How does the concept of software cost estimation benefit project planning and management?

d) What are some characteristics of good software design and why are they important?

e) Can you name one specialized process model and describe a situation in which it would be the most suitable choice?

f) How are decision trees and decision tables useful in analyzing and representing complex decision-making processes?

g) Why is it important to establish a link between metrics and the quality assurance process in software engineering?

h) In software design, what is meant by the terms "cohesion" and "coupling," and why are they significant?

i) Why the Software Requirements Specification (SRS) is considered a crucial document in software engineering?

j) What are some common metrics used to evaluate the maintainability of software systems and how are they applied?

SECTION-B

2. Discuss the evolution of software engineering and explain how the need for structured software development processes emerged? How has this evolution shaped the field of software engineering today?

3. Explain multifaceted role of a system analyst in the software development lifecycle, emphasizing their responsibilities in requirements gathering, analysis and communication with stakeholders. Provide examples to illustrate the challenges they may encounter and how to address them.

4. Good software design is characterized by several important features, including modularity, reusability and scalability. Provide a detailed explanation of these features and illustrate how each contributes to the success of software projects. Additionally, discuss the challenges and trade-offs that designers often encounter when striving to achieve these characteristics in software design.

5. Describe the activities involved in software maintenance, including corrective, adaptive, and perfective maintenance and explain the factors that drive the need for reengineering. Provide examples of real-world maintenance and reengineering scenarios and their challenges.

6. Compare and contrast the principles and practices of object-oriented design with those of functional programming in the context of software design. How do these different paradigms influence the design process, code structure and maintainability of software systems? Provide specific examples and scenarios where one approach may be more suitable than the other.

7. Metrics are essential for evaluating the effectiveness and efficiency of the software testing process. Describe various software testing metrics, such as defect density, test coverage and defect arrival rate. Explain their significance in assessing testing quality and the impact on software maintenance.

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BCA (Sem–4)

DATABASE MANAGEMENT SYSTEMS

Subject Code : UGCA1922

M.Code : 79726

Date of Examination : 22-11-2023

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

SECTION-A

1. **Answer briefly :**

   a) Cursors

   b) Functions

   c) Entity

   d) Hierarchical Model

   e) Transitive Dependency

   f) Locking

   g) Transaction

   h) Network Model

   i) Importance of DBMS

   j) DKNF.

SECTION-B

2. Explain in detail Concept of Data Modelling and Three Level Architecture of DBMS.

3. Explain in detail Different types of Definition Languages used in SQL along with their examples.

4. What do you understand by Normalization? Apply all its forms with a suitable example.

5. Explain in detail Different types of Joins with suitable examples.

6. Explain in detail Importance of Database Security and Integrity and Control.

7. Write a note on Distributed Database.

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BCA (Sem.–4)

OPERATING SYSTEMS

Subject Code : UGCA-1923

M.Code : 79727

Date of Examination : 24-11-2023

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**

SECTION-A

1. **Write briefly :**

   a) Explain the role of kernel, in brief.

   b) Differentiate between program and process.

   c) Write at least two advantages of threads.

   d) Differentiate between Logical and Physical Address Space.

   e) Explain the term Internal Fragmentation, in brief.

   f) Define the term Demand Paging.

   g) What do you mean by device drivers?

   h) Explain in brief about the term seek time in reference to disk storage.

   i) List the various issues in Distributed Operating System.

   j) Define the term Multiprocessor Operating System.

SECTION-B

2. Write a detailed note on Evolution and types of Operating Systems.
3. a) Define process and explain the process states in details, with diagram.

   b) Define the term PCB. Describe the fields in a Process Control Block (PCB) in detail.
4. Explain, in detail about the Paging Scheme of Memory Management.
5. Write a detailed note on various page replacement algorithms.
6. **Write a detailed note on following in relation to file management:**

   a) File Access Methods

   b) File Protection.
7. Write a detailed note on Real-Time Operating System.

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BCA / B.Sc. (Information Technology) (Sem–4)

WEB DESIGNING

Subject Code : UGCA1927

M.Code : 79731

Date of Examination : 29-11-2023

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

SECTION-A

1. **Write short note on the following:**

   a. What are Hyperlinks?

   b. What are the basic formatting tags?

   c. Define paired tags with one example.

   d. Explain the date formats in JS.

   e. What do you mean by Internet Addressing?

   f. What are JavaScript data types?

   g. Ordered and unordered lists.

   h. What is form?

   i. Compare HTML vs. DHTML.

   j. What are Internal CSS style sheets?

SECTION-B

2. a) What is client side JavaScript? Write the syntax of writing JavaScript into HTML.

   b) By taking a suitable example, explain the use of Document Head and Body in HTML structure.

3. What are frames and their types in HTML? Explain with example.

4. Explain how browser communicates with a web server? When you click on a submit button of an HTML form, you find your form data appears in the web browser's URL address field. Is your form using method Get or POST?

5. Explain Looping statements available in JS with example. Write the difference between while and dowhile loop.

6. What is establishing connectivity on the Internet client IP address? Discuss in detail.

7. a) **Write a HTML source code to create a table using following attributes:**

   i) ROWSPAN

   ii) COLSPAN

   iii) Cellspacing

   iv) Cellpadding.

   b) Explain the difference between Cellspacing and Cellpadding.

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Total No. of Questions : 07

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BCA (Sem.–5)

PROGRAMMING IN PHP

Subject Code : UGCA-1929

M.Code : 90312

Date of Examination : 24-11-2023

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**

SECTION-A

1. ***Write briefly :***

   a) Clarify the difference of use of <? Php …….. and ……. ?>

   b) Differentiate between echo and print statements with example of each.

   c) What are superglobals in PHP? Give example of each.

   d) What is the purpose of 'require' and 'include' directives in PHP. What is their importance and application? Explain with example.

   e) How a session is started and terminated in PHP. Justify with example.

   f) What are callback functions and how these are used in PHP?

   g) How a database is created with PHP. Give one example

   h) Depending upon getting system time, how will you great a user echoing with the message "Good……"$user

   (MORNING/AFTERNOON/EVENING).

   Write PHP script for the same.

   i) What is 'debugging' in PHP?

   j) What do you mean by operands and operators in PHP?

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SECTION-B

2. What is the difference between numeric and associative arrays? Using PHP, display data items of an array in descending order using for and for each loops.

3. What is a session? How session is created in PHP. Justify your answer with examples.

4. Calculate sum of only 'EVEN' integer numbers stored in an array using recursive func in PHP.

5. Give properties and their values for the following elements:

   'GET', 'POST', form, input, type, label.

6. How PHP development environment is configured to execute server-side scripting?

7. Write a PHP script to accept username, password and e-mail values and validate same.

   Warn the user if user typing wrong e-mail address by alert message to re-type the co e-mail address. Display this process in a HTML page.

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Total No. of Questions : 07

BCA (Sem.–5)

PROGRAMMING IN JAVA

Subject Code : UGCA-1932

M.Code : 90315

Date of Examination : 25-11-2023

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

SECTION-A

1. **Answer briefly :**

   a) What are the benefits of OOP?

   b) How does Java differ from C++?

   c) Define Java tokens. Write a history of PHP.

   d) What is Java API?

   e) How do you declare a variable in Java, give an example.

   f) What is the difference between a while and a do-while statement?

   g) Define local scope and global scope of a variable with an example.

   h) What is the use of static keyword?

   i) What is the difference between the String and String Buffer class?

   j) Define Multithreading.

SECTION-B

2. a) Write a program to show multilevel and multiclass inheritance.

   b) Write a program to show method overloading and method overriding concepts.

3. Discuss various loop statements and branching statements available in Java. Show their syntax.

4. What are system packages in Java? How the packages are created?

5. How error handling and exception handling are managed in Java? Explain with the help of an example using *try* and *catch*.

6. Define an Applet. How is an Applet different from an application? Describe the lifecycle of an applet.

7. Create a Date class in Java having day, month and year data members. Create constructors for initializing data members, functions for validating date, getting values of data members and displaying the date.

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BCA (Sem.–5)

COMPUTER GRAPHICS

Subject Code : UGCA1934

M.Code : 90317

Date of Examination : 30-11-2023

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**

SECTION-A

1. **Write briefly :**

   a) What is a Graphics Tablet?

   b) Define virtual reality.

   c) List five types of graphs.

   d) What are points and lines in computer graphics?

   e) What is the need for homogeneous coordinates? Give the homogeneous coordinates for translation, rotation and scaling.

   f) What is a frame buffer? Also, explain on what factors the quality of a displayed image depends?

   g) What is the direct method for scan-converting circles?

   h) How shearing is different than scaling?

   i) What is the difference between the boundary-fill algorithm and the flood-fill algorithm?

   j) What is Morphing in computer graphics?

SECTION-B

2. a) Compare and contrast raster and random-scan systems in computer graphics.

   b) List the applications of Computer Graphics.

3. Describe in detail the Bresenham's line drawing algorithm. Using Bresenham's algorithm, find the coordinates of the pixels on a line segment with endpoints (2,3) and (5,8).

4. Explain the concepts of translation, scaling and rotation transformations in computer graphics. Explain how each transformation affects objects position, size, and orientation.

5. a) Write a note on area filing techniques.

   b) Magnify the triangle with vertices A(0,0), B(1,1), C(5,2) to twice its size while keeping C(5,2) fixed.

6. Define projection. Explain various types of parallel and perspective projections. Also, derive the equations for perspective projection.

7. Write down the Cohen-Sutherland line clipping algorithm. How does it determine which parts of a line segment lie inside and outside the clipping window?

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BCA (Sem.–5)

LINUX OPERATING SYSTEM

Subject Code : UGCA-1935

M.Code : 90318

Date of Examination : 02-12-2023

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

SECTION-A

1. **Answer briefly :**

   a) Write a note on history of linux.

   b) Discuss about the terminologies used in linux.

   c) List any four linux distributions.

   d) What are the major features of linux operating system?

   e) Write a note on role of shell in linux environment.

   f) What is I/O Redirection in Linux?

   g) What is the architecture of linux? Explain.

   h) Define Shell script in linux.

   i) Discuss init process along with runlevels.

   j) Explain virtualization in Linux.

SECTION-B

2. Write down the steps to create, modify, search and navigate a file in editor.
3. Draw and explain the structure of Linux.
4. Explain different types of shells in Linux operating system.
5. Write down the steps required for changing the current network configuration.
6. Write a shell script to show working with if-then statement.
7. Explain the commands :

   a) telnet

   b) route

   c) hostname

   d) ping

   e) ifconfig.

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BCA (Sem.–5)

INTERNET OF THINGS

Subject Code : UGCA1933

M.Code : 90316

Date of Examination : 07-12-2023

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.

SECTION-A

1. **Write briefly :**

   a) Write the purpose of Internet of Things (IoT).

   b) Write a short note on cloud computing.

   c) Discuss the contribution of wireless sensor networks in IoT.

   d) Discuss two domain specific IoT applications for the 'city' domain.

   e) What role does network function virtualization play in IoT ecosystem.

   f) How is NETCONF used in conjunction with YANG in IoT system management?

   g) Discuss briefly network operator requirements in IoT.

   h) How does NETCONF help in configuring network devices?

   i) Write a short note on web servers.

   j) Describe briefly the significance of security management in an IoT system.

SECTION-B

2. What is the role of IoT protocols in establishing the communication between devices. Discuss some widely used protocols highlighting the advantages they offer.

3. Describe various IoT technologies that enable smart farming and precision agriculture. Discuss how these technologies enhance crop yield and sustainability.

4. What is IoT system management? Discuss key aspects of IoT system management along with their need.

5. Describe key components of Simple Network Management Protocol (SNMP). How SNMP facilitates network operator requirements for IoT deployments?

6. What is IoT design methodology? Describe key elements of IoT design methodology.

7. What is cloud storage? Discuss about various cloud storage models discussing their benefits and considerations when each model is preferred over the other.

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BCA (Sem–6)

ANDROID PROGRAMMING

Subject Code : UGCA1943

M.Code : 91681

Date of Examination : 20-11-2023

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**

SECTION-A

1. **Answer the following :**

   a) State any four basic controls used in android GUI application.

   b) Give names of different states in android application development life-cycle.

   c) List main components of android SDK.

   d) Differentiate between 'JAVAC' and 'JVM'.

   e) What is MapKit?

   f) What is device streaming in android application development?

   g) How navigation drawer works? Give one example.

   h) What are basic dependencies?

   i) What is 'encapsulation' and 'data-abstraction' in java?

   j) Give advantages of intelligent code-Editor.

SECTION-B

2. Discuss android development system architecture. How Java API interacts with Android Runtime (ART).

3. Explain difference between 'system prototype' and 'system model' with suitable examples.

4. Explain directory structure of android-based application software development. Give usage of resources folder with its sub-folders in your mobile application.

5. What is software testing, validation and verification? How and why, these are used in android development environment?

6. Discuss with example various GUI elements in any mobile application.

7. How display orientation changes are controlled? Explain 'absolute' and 'relative' layou customization of screen orientation in an android application development.

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Bachelor of Computer Applications (Sem.–6)

DIGITAL MARKETING

Subject Code : UGCA1947

M.Code : 91691

Date of Examination : 29-11-2023

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**

SECTION-A

1. **Write briefly :**

   a) What is digital marketing? Compare and contrast the traditional marketing.

   b) What is POEM?

   c) What is viral marketing?

   d) What is Search Engine Optimization?

   e) Discuss characteristics of SEO content writing?

   f) What is landing page? How can it be optimized?

   g) What is page rank technology?

   h) What are different types of keywords?

   i) What is CTR?

   j) What is mobile marketing? What kind of products is mobile marketing suitable for?

SECTION-B

2. Which factors are responsible for the transition of Traditional Marketing to Modern Marketing? What are the key areas of comparison between Web 1.0 and Web 2.0?

3. Describe elements of the Brick and Mortar and Brick and Click models separately.

4. What is search engine marketing? Discuss the stages of search engine marketing and rules that search engine optimization plays in search engine marketing.

5. *"One of the emerging channels of marketing, it includes ways and means to use "content" as a marketing channel by itself which guides consumers to purchases and end-of funnel activities."* Discuss.

6. Differentiate between on page optimization and off page optimization. Discuss in detail the social media optimization techniques. Give examples

7. **Write short notes on following :**

   a) Web analytics

   b) SMS marketing.

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Total No. of Questions : 07

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BCA (Sem–6)

INFORMATION SECURITY

Subject Code : UGCA 1948

M.Code : 91695

Date of Examination : 01-12-2023

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**

SECTION-A

1. **Write Briefly :**

a) Explain Secure E-mail with example.

b) What is inferential control?

c) What is Firewall?

d) Explain Asymmetric key cryptography.

e) What is targeted malicious code?

f) List out the differences between Public Key and Secret Key algorithms.

g) What is multilevel database?

h) Is there any difference between computer crimes and cyber-crimes? Explain.

i) What is a cipher?

j) Define Encryption using an example.

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SECTION-B

2. Explain DES algorithm with suitable examples. Discuss advantages and limitations of DES algorithm. What are uses of Encryption?

3. Discuss in detail the security policies in an operating system. Explain the potential consequences of breach in assurance in the implementation of trusted operating systems and how assurance measures mitigate risks.

4. What are the primary network security controls that organizations can implement to safeguard their systems and data? Provide examples of how these controls are useful when implemented in practice.

5. What is an Intrusion Detection System (IDS) and how does it differ from a firewall? Explain the two main types of IDS: host-based and network-based. When and how are they deployed in a network security infrastructure?

6. What are the rights and responsibilities of both employees and employers regarding information security? Explain ethical issues in Computer security.

7. What is digital signature? What are the advantages of using digital signatures? Explain the key aspects of a secure architecture for an open system.

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BCA (Sem.–6)

CYBER LAWS & IPR

Subject Code : UGCA-1949

M.Code : 91696

Date of Examination : 04-12-2023

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**

SECTION-A

1. **Write briefly :**

   a) Explain Cyber Crime with example.

   b) Copyright

   c) Digital forgery

   d) Identity theft

   e) What is the role of Certifying Authority?

   f) What is the significance of copyrights?

   g) When was IT Act, 2000 amended? When were major changes incorporated in IT Act?

   h) What is open-source software?

   i) Explain digital signatures and give their advantages.

   j) What is cyber terrorism?

SECTION-B

2. Discuss the evolution of cyber-crimes. Explain different categories of cyber-crimes. Explain the role of cyber laws in cyber security.

3. What are Patents? What is the Process of filing a patent? How is patent different from copyright?

4. What is a trademark? What kind of signs can be used as trademarks? Explain types of trademark and advantages of using a trademark.

5. Explain in detail about cyber-crime against individual, state and institution. Give counter measures on how to protect from cyber-crimes?

6. Explore the role of ethical hackers and cybersecurity professionals in preventing cyber crimes. What are the ethics and etiquettes of cyber world?

7. Define Intellectual Property (IP) and distinguish between different types of IP rights, such as patents, trademarks and copyrights and give significance of each type in protecting creative and innovative works.

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