

Question Paper Code : 6580

B.C.A. (Semester-V) Examination, 2021

INFORMATION SYSTEM : ANALYSIS, DESIGN AND IMPLEMENTATION

[Paper : BCA-5054]

Time : Three Hours]

[Maximum Marks : 70

Note : Attempt any five questions. All questions carry equal marks.

1. Who is a system analyst ? What are the various roles and responsibilities of a system analyst ? What is the qualification required to become a system analyst ?
[14]
2. Define a system. Explain its elements and characteristics with the help of a neat diagram. [14]
3. Differentiate between a decision table and a decision tree. Prepare a sample data dictionary for a student management system. [14]
4. Define these terms using proper examples : [14]
 - (a) TPS
 - (b) OAS

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(1)

[P.T.O.]

- (c) MIS
- (d) ESS
5. (a) Compare cohesion and coupling. Explain various types of cohesion and coupling techniques. [7]
- (b) Compare bottom-up and top-down design techniques used for a software design. [7]
6. (a) Elaborate 'SDLC'. Explain each phase of 'SDLC' in detail with the help of an example. [7]
- (b) Define 'SRS'. Explain various types of system documentation. Why is the system documentation required? [7]
7. Calculate cyclomatic complexity for the given code using a proper control flow graph : [14]

```

{ int i, j, k;
  for (i = 0 ; i<=N ; i++)
    p[i] = 1;
  for (i = 2 ; i<=N ; i++)
    {
      k = p[i]; j = 1;

```

```

while (a[p[j]-1] > a[k] {
    p[j] = p[j]-1;
    j--;
}
p[j] = k;
}

```

8. What is a 'DFD' ? Explain its types and components. Draw a DFD for a 'Railways Reservation System' up to level 2. [14]
9. Why is system testing required ? Explain any seven types of system testing techniques in detail using an appropriate example for each. [14]
10. Define these using proper examples :
- (a) Physical and abstract systems [7]
- (b) Four approaches for System Conversion. [7]

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