Gandaki College of Engineering and Science

Preboard exam

Level: Bachelor
Programme: Software engineering
Course: Principle of programming languages

Year : 2019
Full Marks: 100
Time : 3 hrs.

Candidates are required to give their answer in their words as for as practicable.

The figures in the margin indicate full marks.

Attempt all the questions

1. a) Why developer uses psuedocode and algorithm before programming? Write characteristics of good programming language. 8

   b) Describe the domains to be considered while designing psuedocode. 7

2. a) "pass by name is dangerous and expensive in Fortran", Explain it with suitable example. 8

   b) Describe syntactic structure of FORTRAN. 7

3. a) How does ALGOL follow "Zero-One-Infinity Principle? 7

   b) Write a BNF description for the following data type. 8
   i)Integer
   ii)Unsigned Integer
   iii)Number
   iv)Unsigned number

4. a) How information are represented by Property lists and Association lists in LISP? 8

   b) Write characteristics of Function –oriented programming languages. 7

5. a) How classes and objects are represented in Smalltalk? 8

   b) Describe structural organization of Smalltalk. 7

6. a) Write a program to find the sum of square of first 10 natural numbers in Fortran77. 10

   b) Differentiate CAR and CDR Selectors. 5

7. Write short notes on: ***(any two)*** 2*5
   i) Computed GOTO
   ii) Context free grammar
   iii) First generation languages

GANDAKI COLLEGE OF ENGINEERING AND SCIENCE

SPRING SEMESTER

ASSESSMENT EXAMINATION

Level: Bachelor **Year: 2019**

Programme: B.E. Software **Full Marks: 100**

Course: Multimedia System **Time: 3 hrs.**

Semester : VI

Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate full marks.

Attempt all the questions.

1. (a) Define multimedia. Explain the main properties of multimedia. 8
   (b) Explain the MIDI messages with examples. 7
2. (a) Explain DCT based JPEG image compression technique. 8
   (b) Define animation. Describe various animation languages. 7
3. (a) What is run length coding? Construct the Huffman code for. 8

Gray Level	0	1	2	3	4	5	6	7
No.of Pixel	5320	1000	500	525	1236	965	856	128

   (b) What are the differences between CD-ROM (XA) form-1 and CD- ROM (XA) from-2. Illustrate above with a block diagram. 7
4. (a) Define Multimedia OS. Explain the characteristics of real time OS. 8
   (b) Explain MPEG compression algorithm. 7
5. (a) Define the term speech. Describe time dependent sound concatenation with a necessary example. 8
   (b) Explain DVI video processing. 7
6. (a) Define hypermedia. Differentiate between SGML and ODA. 8
   (b) Define MCS. Explain the Resource Management in the context of Multimedia. 7
7. Write short notes on (Any Two) 2x5=10
   (a) H.261
   (b) QoS
   (c) MHEG

"Best of Luck"

GANDAKI COLLEGE OF ENGINEERING AND SCIENCE

Semester – Spring

Level: Bachelor
Programme: BESE
Course: Computer Network

Year : 2019
Full Marks : 100
Time : 3 hrs

Candidates are required to give their answer in their words as for as practicable.
The figures in the margin indicate full marks.
Attempt all the questions

1. a) What is active network model? What are the usages of computer networks? 8
   b) Discuss the advantage of layered architecture. How are interfaces, protocols and services of layered system related? 7
2. a) What are the metrics of network performances? Describe them in short. 8
   b) What are the services provided by data link layer? Explain techniques of framing? 7
3. a) What is cyclic redundancy check code? Calculate CRC code for following message 7
   Message: 11100101
   Generator polynomial: $x^4 + x^3 + x + 1$
   b) Describe distance vector routing with example. 8
4. a) An organization consists of 3 different departments with 20, 24 and 30 computers. Explain how you will design three subnets for the departments by subnetting 192,168.1.0/24 network. Provide network address, broadcast address, subnet mask, wildcard mask and usable IP pool for each subnet. 7
   b) What do you mean by traffic shaping? Explain the related algorithms. 8
5. a) Explain about DHCP in brief. 7
   b) What is SMTP? Differentiate POP and IMAP protocols. 8
6. a) What is asymmetric key? How does it ensure data security? 7
   b) Explain DES encryption algorithm with suitable diagram 8
7. Write short notes on (any two). 2*5
   a) CSMA/CD
   b) IPv4 packet structure
   c) WWW

GANDAKI COLLEGE OF ENGINEERING

Level: Bachelor Internal Examination Year : 2019
Programme: Software Engineering Full Marks: 100
Course: Engineering Economics Pass Marks: 45
Time : 3hrs.

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Attempt all the questions.

1. a) Define engineering economics. Enlist the principle of engineering economics. 8
   b) Explain opportunity cost, marginal cost and sunk cost with example. 7
2. a) Calculate the future worth of the following cash flows deposited at 8% compounded continuously for 5 years. 8
      a. Rs 50,000 at the beginning of each year.
      b. Rs 50,000 at the end of each year.
   b) A company is investing the purchase of new equipment. Interest rate is 9%. The cash flow for the equipment is as follows: Initial investment Rs 50,000, annual operating cost Rs 2,000, annual income Rs 9,000, and salvage value Rs 10,000, life 10 years. 7
      a. Is this investment worth undertaking?
      b. What should be the minimum annual benefit for making it a worthy of investment at 9% rate of return?
3. a) Evaluate IRR of the following project and identify whether the project is feasible or not and prepare unpaid investment balance (UIB) both in table and diagram. Take MARR=10%. 8

EOY	Net cash flow
0	-10,00,000
1	4,00,000
2	3,60,000
3	3,20,000
4	2,80,000
5	2,40,000

   b) Using co-terminated assumption recommend the best project taking study period as 5 years. 7

Projects	A	B
Initial Investment	3,50,000	5,00,000
Annual Revenue	1,30,000	1,75,000
Annual Costs	15,000	25,000
Salvage Value	35,000	50,000
Useful Life	5 Years	8 Years
MARR	10%	

4. a) Define mutually exclusive project, independent project and contingent project with proper combination. 8
   b) Find breakeven point both in units and values. What would be the effect on profit/ loss when fixed cost increases by 20% and selling price decreases by 30%. 7
5. a) Discuss the concept of economic development in detail. 8
   b) Construction equipment has initial cost and annual saving per year is of Rs 40,000 and Rs 20,000 respectively with annual operating and maintenance cost of Rs 7,000. It will depreciate by MARCS method and will have no salvage value. The useful life of equipment is 5 years. Estimate before and after tax cash flow. The company pays income tax @ 40%. 7
6. a) What do you understand by cost of capital? Discuss public private partnership in detail. 8
   b) What is trial balance sheet? State the limitations of trial balance sheet. 7
7. Write short notes on: (Any two) 2×5
   a) Cash flow diagram
   b) Basic methods of depreciation
   c) Inventories turnover

Level: Bachelor
Programme: BESE
Course: Object Oriented Software Development

GANDAKI COLLEGE OF ENGINEERING AND SCIENCE

Semester: Spring

Year : 2019
Full Marks : 100
Time : 3 hrs

Candidates are required to give their answer in their words as far as practicable.
The figures in the margin indicate full marks.

Attempt all the questions

1. a) What do you mean by Object-oriented Analysis and Object-oriented Design? List briefly the activities performed in object oriented analysis. 8

   b) Differentiate process and product engineering. Justify process engineering ultimately is also a product engineering. 7

2. a) Change management is very important in Iterative and Incremental Development. Why and how is it done? 7

   b) What is Use Case Realization? Justify the statement "All other models can be developed from the use case model". 8

3. a) Explain cohesion and coupling. How are the concepts of coupling and cohesion useful in achieving a good software design? 7

   b) Define design pattern. Compare similarities and dissimilarities between factory and abstract factory design pattern. 8
   OR
   Design is four dimensional view of a system. Justify along with design concepts. 7

4. a) Write about structure and documentation of pattern 8

   b) What do you mean by Concurrency Design Pattern? Illustrate concurrency design pattern with one example. 7

5. a) What are the difficulties and risks while using design pattern? Discuss in brief. 8

   b) Compare Client Server and Distributed Architecture. Explain the role of distributed architecture in today's world of automation. 7

6. a) Compare and contrast design and architectural pattern. 8

   b) Describe Message Oriented architecture with a help of an example. 2*5

Write short notes on (any two).

a) Service Oriented Architecture
b) Architecture centric process
c) Data Access Pattern