

TCS-304

1204

Odd Semester Examination, 2017-18

B.TECH. (SEMESTER-III)

OBJECT ORIENTIED PROGRAMMING

Time: 03:00 Hours

Max Marks : 100

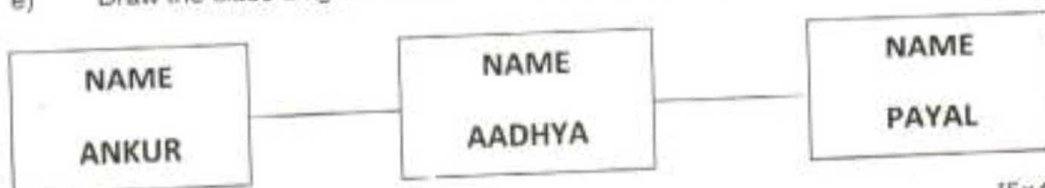
Note:- Attempt all questions. All questions are compulsory.

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1. Attempt any four questions.

[5×4=20]

- a) Explain an approach to the development of procedure oriented programs & what are the drawbacks of this approach?
- b) What is the role of operations in dynamic modeling? How can you implement on the state diagram? Give example in your explanation
- c) Explain all the components of DFD. Also prepare a data flow diagram for computing the volume & surface area of a cylinder. Inputs are the height & radius of cylinder, outputs are volume & surface area?
- d) What do you mean by pure object oriented language? Is java pure oriented language? If Yes, Give reason in support of your answer?
- e) Draw the class diagram from the instance diagram given below



[5×4=20]

2. Attempt any four questions.

- a) Prepare a DFD for Hostel Mess. Also Explain leveling of DFD ?
- b) How Does String class differ from String Buffer Class? Write a Program which will read a string and rewrite it ?

c) Write a Complex class that represents a single complex number and includes methods for all the usual operations i.e. addition, subtraction, multiplication, division etc.

d) Consider the following two classes :

```
Public class classA
{
    Public void methodone (int i)
    {}
    Public void methodtwo (int i)
    {}
    Public void methodthree (int i)
    {}
    Public void methodfour(int i)
    {}
}
Public class classB
{
    Public void methodone (int i)
    {}
    Public void methodtwo (int i)
    {}
    Public void methodthree (int i)
    {}
}
```

i) Which method override a method in superclass ?

ii) Which method hide a method in superclass ?

iii) What do the other methods do ?

e) Compare S A/SD ,OMT and JSD methodologies with examples ?

3. Attempt **any two** questions.

[10 ×2=20]

a) What is an Applet ? Describe the life cycle Methods of Java Applet ? Also Explain ways to Execute the Applet?

- b) Explain Multithreading & its need in java. How would you add threads to a class that inherits from a class other than the thread class ? ( Explain with examples )
- c) Create a wrap text applet so that it optionally accepts FONT, SIZE & STYLE PARAMs which set font face , point size & style in which the string is drawn. Be sure to gracefully handle the case when the APPLET tag doesn't include any or all of these PARAMs or include invalid values ( eg. STYLE = "UNDERLINE").

[10×2=20]

4. Attempt **any two** questions.

- a) What do you mean by AWT? Explain its application, Working & Controls with Windows ?
- b) Give reasons why exception handling techniques should not be used for conventional program control. Discuss how exception handling is done in Java?
- c) How method overriding is different from method overloading? Explain it with the help of program.

[10×2=20]

5. Attempt **any two** questions.

a) Explain the following with suitable examples

- i) Class Template
- ii) C++ Streams
- iii) Enterprise Java Beans
- iv) Java API

b) How image are handled by java ? Write a program to open any supported image format and changes its contrast & brightness to the values entered by the user. Display original & modified images.

- c) i) "Nested State diagram is actually a form of generalization on state" Justify the statement with suitable example ?
- ii) How do you map the object oriented concepts using non -object oriented languages? Explain with an example.

---x---