

B.Tech. DEGREE EXAMINATION, NOVEMBER 2018

3rd to 7th Semester

15IT411J – INTEGRATIVE PROGRAMMING AND TECHNOLOGY

(For the candidates admitted during the academic year 2015-2016 to 2017-2018)

Note:

- (i) **Part - A** should be answered in OMR sheet within first 45 minutes and OMR sheet should be handed over to hall invigilator at the end of 45th minute.
- (ii) **Part - B** and **Part - C** should be answered in answer booklet.

Time: Three Hours

Max. Marks: 100

PART – A (20 × 1 = 20 Marks)

Answer ALL Questions

1. JNI Env pointer is used for _____.
 (A) Invoke the member functions
 (B) Invoke the inner class member functions
 (C) Invoke the native methods
 (D) Invoke the non-native methods
2. Which method is used to copy the content of a string to or pre-allocated C buffer in Unicode format?
 (A) GetStringChars
 (B) GetStringUTFChars
 (C) GetStringRegion
 (D) GetStringRegion
3. To callback a static method, which method used?
 (A) Callvoidmethod ()
 (B) Callstaticmethod ()
 (C) Callstaticmethod ()
 (D) Callstaticvoidmethod ()
4. The purpose of including win32 folder while creating JNI program.
 (A) To include jni_md file
 (B) To include jni_mmd file
 (C) To include jni.h header file
 (D) To include jni_nd file
5. From the following APIs, which API does NOT guarantees to be supported by EJB 2.0 containers?
 (A) JAXP
 (B) JNDI
 (C) JXTA
 (D) JDBC
6. Using which instance is used for access the bean methods and property.
 (A) Bean instance
 (B) BeanRemoteInterface instance
 (C) BeanMainInterface instance
 (D) BeanClientInterface instance
7. Which of the following is responsible to creates ejb-jar files?
 (A) Bean provider and assembler
 (B) Deployer and JVM
 (C) JVM and Glassfish server
 (D) Server and manifest file
8. Which case of a session bean obtains the user transaction object via EJB context in EJB transaction management?
 (A) Bean-managed transactions
 (B) Container-managed transactions
 (C) Web container-managed transactions
 (D) Server-bean managed transactions

9. Before you can send and receive JMS messages you need to install a JMS message broker
 (A) Apache Active M (B) Apache Active
 (C) Apache MQ (D) Apache Active MQ
10. JMS sender and receiver classes can also extend to retrieve a JMS template
 (A) JmsGatewaySupport (B) JmsGateway
 (C) JmsServiceGateway (D) JmsMessagingServiceGateway
11. _____ is a pre-configured JMS object that is created by an administrator for use of JMS clients.
 (A) JMS server object (B) Message driven bean object
 (C) JMS administered object (D) JMS client object
12. Which message is used to transfer of data between two applications in their native format?
 (A) Byte message (B) Map message
 (C) Stream message (D) Object message
13. Who created Python and in which year?
 (A) Jim Hugunin, 1991 (B) Jim Hugunin, 1995
 (C) Guido Van Rossum, 1991 (D) Guido Van Rossum, 1995
14. What is the syntax to import Java libraries in Python?
 (A) From package name import className (B) Import packageName
 (C) Import packageName. ClassName (D) From className import className
15. What is the output for the code? If fac (3)

```
>>> def fac (x)
      if x <= 1 return 1
      return long (x) * fac (x-1)
```

 (A) 6L (B) 7L
 (C) 10L (D) 5L
16. Python is a _____ language.
 (A) Interpreter (B) Compiled
 (C) Interactive (D) Non-interactive
17. Which of the following patterns is used where we need to treat a group of objects in a similar way as a single object?
 (A) Composite pattern (B) Facade pattern
 (C) Flyweight pattern (D) Decorator pattern
18. Which pattern is most appropriate when a decision must be made at the time a class is instantiated?
 (A) Bridge (B) Composite
 (C) Factory method (D) Command
19. Which design pattern is used in the Java database connectivity JDBC?
 (A) Builder design pattern (B) Factory design pattern
 (C) Abstract factory design pattern (D) Singleton design pattern

20. What are the key components of persistence API in EJB?
(A) Entity, entity manager, persistence unit, data source
(B) Entity, entity protocol, stable unit, data source
(C) Entity, persistence unit, data source
(D) Entity, entity manager, data source

PART – B (5 × 4 = 20 Marks)
Answer ANY FIVE Questions

21. Write down the benefits of interface pointer.
22. List out the key services of the application server and explain.
23. Explain publish and subscriber model with suitable example and diagram.
24. Write a simple calculate tax program using Jython. (Hint: write the both java and jython code. Tax = price * tax percentage)
25. Explain the composite pattern with suitable diagram.
26. Explain the EJB model with suitable diagram.
27. Explain the security concepts in JMS.

PART – C (5 × 12 = 60 Marks)
Answer ALL Questions

28. a. When a jni program with native method
findStudentsGroup () which accepts array as arguments and write the logic to computer
the odd register number in group A and even register number in group B.
Hint: Data [314, 100, 229, 100, 500]
b. Write and explain the JNI exceptions handling mechanism with proper code snippet.
(OR)
29. a. Create a stateless session bean for library management application.
[Hint: Bean logic for adding book, remove book]
b. Explain in detail about J2EE architecture with neat diagram and sample code.
(OR)
30. a. Explain the message driven bean with suitable code.
b. Explain in detail about JMS messaging models with suitable diagram.
(OR)
31. a. Explain in detail about Object Relations Mapping (ORM) with suitable code snippet.
b. Explain the steps involved in developing applications with jython with code snippet.
(OR)

32. a. Create a web page login screen using composite view pattern with suitable diagrams and code snippet.

(OR)

b. Explain any one design pattern used in presentation layer with suitable diagram.

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