Roll No. : ....

Total No. of Questions : 9]   [Total No. of Pages : 4

67056-N

M.C.A. 2nd Semester (2 Year Course)
Examination, July-2021
(w.e.f. 2020-21)

ADVANCE OBJECT TECHNOLOGY
Paper-20MCA22C1

Time : Three Hours]   [Maximum Marks : 80

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note :– Attempt *five* questions in all, selecting *one* question from each Unit. Q. No. 1 is compulsory.

1. (a) Write an example of XML tag containing element and attribute.

   (b) What do you mean by implied attribute in XML ?

   (c) Name any *four* implicit objects in JSP.

   (d) How Print Writer is different from Servlet-Output Stream ?

   (e) What is bean persistence ?

   (f) Which package(s) are used for remote method invocation ?

   (g) List *two* disadvantages of struts framework.

   (h) What can be different methods that can be used to track information about a particular client while using stateless connection protocols ?   2×8=16

Unit-I

2. (a) What is DTD ? Why do we use it ? Explain different components of DTD. Write the DTD for the XML file containing following information :

```
<Cricketer>
    <name>
        <first>Rohit</first>
        <last>Sharma</last>
    </name>
    <emailID>sharmarohit@gmail.com
        </emailID>
    <phoneNumber>9876543210
        </phoneNumber>
    <DOB>
        <year>1987</year>
        <month>June</month>
        <day>23</day>
    </DOB>
</Cricketer>
```

(b) Explain different data types used in Javascript with examples. 10,6

3. (a) What is DOM in XML ? How is it different from XML schemas ?

(b) How does Javascript may be invoked and call global variable ? Give example. 10,6

Unit-II

4. (a) How are Swing components different from AWT components ? Explain the basis of the use of CheckButton or RadioButton for getting input from user.

(b) What is BDK introspection ? Explain its use in Java programming. 10,6

5. (a) What are JTabbed Panes used in Swing ? Write a short code of creating two tabbed panes with different component(s) placed on each.

(b) How are Applets related to Swing components ? 10,6

Unit-III   16 each

6. What is a Servlet Program ? How does it use HttpRequest and HttpResponse objects ? Write code for a servlet that takes two values as input from a form and can show the result of mathematical operations of +, −, × and ÷.

7. What are the differences between a session and a cookie ? How can we create and delete a cookie ? Show by suitable program(s).

Unit-IV

8. (a) Write short notes on the following :
   (i) Actions elements
   (ii) Directive elements
   (iii) Declarations elements
   (iv) Scriptlets elements $2\frac{1}{2} \times 4 = 10$

(b) What are the various memory usage considerations during the use of servlets and JSP code ? Explain.   6

9. (a) What is a custom tags.in JSP ? What are the components that make up a tag library in JSP ?

(b) Write details on the Struts technology, its framework and how do client machine communicate with the server machine in this environment.   10,6