**Subject: Informatics Practice**  
**Maximum Marks: 100 (Theory: 70, Practical: 30)**

**Syllabus**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Topic</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Computer Networks and OSS</td>
<td>20</td>
</tr>
<tr>
<td>II</td>
<td>Visual Basics</td>
<td>15</td>
</tr>
<tr>
<td>III</td>
<td>Fundamentals of DBMS</td>
<td>20</td>
</tr>
<tr>
<td>IV</td>
<td>Internet and Web Application Development</td>
<td>15</td>
</tr>
</tbody>
</table>

**Model Question Paper prepared as per new format of CBSE**

<table>
<thead>
<tr>
<th>Q.No</th>
<th>Units Covered</th>
<th>Marks</th>
<th>Sub Questions</th>
<th>Marks Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I (Computer Networks and OSS)</td>
<td>10</td>
<td>6 (a - f)</td>
<td>(1x3)+(2x2)+3 = 10</td>
</tr>
<tr>
<td>2</td>
<td>II (Visual Basics)</td>
<td>10</td>
<td>6 (a - f)</td>
<td>(1x3)+(2x2)+3 = 10</td>
</tr>
<tr>
<td>3</td>
<td>III (Fundamentals of DBMS)</td>
<td>10</td>
<td>6 (a - f)</td>
<td>(1x3)+(2x2)+3 = 10</td>
</tr>
<tr>
<td>4</td>
<td>IV (Internet and Web Application Development)</td>
<td>10</td>
<td>6 (a - f)</td>
<td>(1x3)+(2x2)+3 = 10</td>
</tr>
<tr>
<td>5</td>
<td>I (Computer Networks and OSS)</td>
<td>10</td>
<td>3 (a - c)</td>
<td>(1x2)+(2x4) = 10</td>
</tr>
<tr>
<td>6</td>
<td>III (Fundamentals of DBMS)</td>
<td>10</td>
<td>3 (a - c)</td>
<td>(1x2)+(2x4) = 10</td>
</tr>
<tr>
<td>7</td>
<td>II &amp; IV (Fundamentals of DBMS/ Internet and Web Application Development)</td>
<td>10</td>
<td>3 (a - c)</td>
<td>(1x2)+(2x4) = 10</td>
</tr>
</tbody>
</table>

Note:
1. Q. 1 to Q. 4 have six sub-questions carrying 1, 2 and 3 marks.
2. Q.5 to Q. 7 has three sub-questions. Carrying 2 and 4 marks.
3. Alternative Choice has been provided in Q.No 5, 6 and 7 for the sub questions (b) and (c) carrying 4 marks.
4. Marks distributions with respect to total question is in below mentioned table.

<table>
<thead>
<tr>
<th>Marks</th>
<th>Total Questions</th>
<th>Total Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>70</td>
</tr>
</tbody>
</table>

5. The same question paper can be converted in the older format of CBSE with Very short/Objective, Short answer and Long answer type questions.
Model Paper-2020
Informatics Practices

Instructions
(i) All questions are compulsory.
(ii) Answer the questions after carefully reading the text.
(iii) This question paper contains 7 questions carrying 10 marks each.
(iv) Q. 1 to Q. 4 have six sub-questions carrying 1, 2 and 3 marks.
(v) Q. 5 to Q. 7 has three sub-questions carrying 2 and 4 marks.

Time allowed: 3 hours Maximum Marks: 70

Q. 1
a) Define MAC address along with an example? (1)
b) The Length of IPv4 and IPv6 address in bits are_______ and ______. (1)
c) What is an Open Source Software? (1)
d) Define Computer Network? Name different types of computer networks. (2)
e) What is a Cyber-Crime and also mention the act that deal with cyber-crime in India? (2)
f) Define the following Networking Devices:
   (i) Router (ii) Modem (iii) Switch (3)

Q. 2
a) What is VB (Visual Basic) Form? (1)
b) The full form of IDE is __________________________. (1)
c) What is the purpose of Message Box Function MsgBox() in VB? (1)
d) Why is VB Programming language called as Event driven language? (2)
e) Differentiate between SDI and MDI forms? (2)
f) Define the following terms:
   (i) Error (ii) Failure (iii) Fault (3)

Q. 3
a) Define DBMS (Database Management Systems)? (1)
b) What do you mean by Cardinality and Cardinality Ratio in DBMS? (1)
c) Write down the name of three commands of TCL? (1)
d) Differentiate the usage of Drop and Delete commands of SQL along with syntax? (2)
e) What is the difference between Primary key and Foreign Key? (2)
f) Define the different types of integrity constraints of SQL? (3)

Q. 4

a) What is a Web Browser? Write down name of world’s first web browser? (1)
b) What is difference between the Internet and WWW (World Wide Web)? (1)
c) What is an Anchor tag in HTML? (1)
d) What is the difference between JPEG and GIF image formats? (2)
e) What is HTML and what is it used for? (2)
f) What is a Search Engine? How does a search engine works? (3)

Q. 5

a) Define Data Communication and the elements of data communication? (2)
b) Differentiate between Guided and Unguided Media along with examples? (4)

OR

Define Network Topology? Explain different types of network topologies along with diagrams?

OR

c) Define Network Security and explain the different types of threats to network security? (4)

OR

Define the following terms?
(i) Anti- Virus (ii) Firewall (iii) Snooping (iv) Denial of Service

Q. 6

a) Write down the syntax and an example of following SQL Functions?
   (i) ABS ( ) (ii) CEIL ( ) (iii) ROUND ( ) (iv) MOD ( ) (2)
b) Write down the SQL script to create a table with table name as Student that will store the student’s data with attributes as Roll Number, Name, Parentage, Address and Date of Birth? Which attribute will act as Primary key and also
mention the data type of each attribute? \hspace{1cm} (4)

OR

Write down an SQL script to create a table with table name as Employee that will store the employee’s data with attributes as Employee ID, Name, Designation, Department and Address? Which attribute will act as Primary key and also insert the data of 5 employees in it?

c) Write down the different commands of DDL and DML along with syntax and an example for each command? \hspace{1cm} (4)

OR

Define Database Transaction? What are the ACID properties of a database transaction?

Q. 7

a) Define the Following terms:

(i) Loops in Visual Basics  \hspace{0.5cm} (2)
(ii) Tags in HTML

b) Write down the HTML code to create the below mentioned table?

\[
\begin{array}{|c|c|c|c|}
\hline
\text{Roll Number} & \text{Name} & \text{Class} & \text{D.O.B} \\
\hline
101-2020 & John & HSC-II & 11-10-1999 \\
102-2020 & Alex & HSC-II & 15-02-2001 \\
103-2020 & Bob & HSC-II & 16-03-2005 \\
104-2020 & David & HSC-II & 03-08-2002 \\
105-2020 & Steve & HSC-II & 02-01-2003 \\
\hline
\end{array}
\]

OR

Define <img> tag along with five attributes? Write down an HTML code to insert an image in a web page and hyperlink to the caption of image?

c) Write a program in Visual Basics to swap two given numbers without using a third variable? \hspace{1cm} (4)

OR

Write a program in Visual Basics to check weather a number is prime or not?