Course:	**CSE 480: Web Database Programming, Section-1**
Instructor:	**Abdus Satter, Adjunct Faculty, CSE Department**
Full Marks:	**20**
Time:	**1 Hour and 10 Minutes**

Note: There are Five questions, answer ALL of them. Marks of each question are mentioned at the right margin.

---

1 **Write** a PHP script that creates the following table using for loops. Add **4** cellpadding="3px" and cellspacing="0px" to the table tag.

A * A = A,B	A * B = B,C	A * C = C,D	A * D = D,E	A * E = E,F
B * A = B,C	B * B = D,D	B * C = F,E	B * D = H,F	B * E = A0,G
C * A = C,D	C * B = F,E	C * C = I,F	C * D = AB,G	C * E = AE,H
D * A = D,E	D * B = H,F	D * C = AB,G	D * D = AF,H	D * E = B0,I
E * A = E,F	E * B = A0,G	E * C = AE,H	E * D = B0,I	E * E = BE,A0
F * A = F,G	F * B = AB,H	F * C = AH,I	F * D = BD,A0	F * E = C0,AA

Figure-1

2 **Scenario_A**: **5**

Assume that, you are asked to build a web-based application for helping students submitting application for scholarship online. The system is shown in Figure 2 along with its source code.

Scholarship Application Form

* denotes mandatory field

Student Id*

Full Name*

Email Address*

Date of Birth*

CGPA*

Phone No.*

```html
<h3>Scholarship Application Form</h3>
<h5>* denotes mandatory field</h5>
<form id="applicationForm" method="post">
    <label>Student Id*</label>
    <input type="text" name="studentId" />
    <label>Full Name*</label>
    <input type="text" name="fullName"/>
    <label>Email Address*</label>
    <input type="text" name="email"/>
    <label>Date of Birth*</label>
    <input type="datetime" name="dob"/>
    <label>CGPA*</label>
    <input type="text" name="cgpa"/>
    <label>Phone No.*</label>
    <input type="text" name="phoneNo"/>
</form>
```

Figure-2

Design a PHP script for scenario A that has an HTML form to take input as shown in Figure-2 and insert the information into the table named "application" of the database name "EWU_DB" using PHP.

Add server side and client-side **validation** for the input data with the condition that are given below.

Validation Part (Use Regular expression):

- Student Id: should be the following format, <year>-<3-digit no>-<2-digit no> (for example, 2020-112-90)
- Full Name: should have first name and last name and character range is between 6 to 30.
- Email: must be a valid email address.
- Phone No.: must be start with either +88017, +88019, +88016, +88013, +88014, 017, 019, 013, 014 Must have 13 character if it is start with 0 or 14 if it is start with +.
- Date of Birth: must be a valid date. 12/01/2019 is acceptable, and 12/13/2019 is not acceptable. Must be 01/01/2000 or earlier but not before 01/01/1997.
- CGPA: must be greater than 3.90 to apply for the scholarship

3 **Outline** a PHP script named "view.php" for scenario A that reads at most 20 tuples whose CGPA is greater than 3.92 in descending order from the application table and displays it in an HTML table using PHP. **3**

4 JSON (JavaScript Object Notation) is most widely used data format for data interchange on the web. This data interchange can happen between two computer applications at different geographical locations or running within the same machine. The good thing is that JSON is a human-readable as well as a machine-readable format. So, while applications/libraries can parse the JSON documents – humans can also look at the data and derive the meaning from it. All modern programming languages (e.g., Java, JavaScript, Ruby, C#, PHP, Python, and Groovy) and application platforms provide excellent support for producing (serializing) and consuming (deserializing) JSON data. It is commonly used for developing Web API applications. **4**

Write a PHP script named "applicationApi.php" for scenario A that provides two API- one for inserting data using POST method and another for getting application(s) from the application table based on studentId using GET method. Follow JSON format for data communication.

5 **Write** a JavaScript that creates the following table using for loops. Add cellpadding="3px" and cellspacing="0px" to the table tag. **4**

a * a = a,b	a * b = b,c	a * c = c,d	a * d = d,e	a * e = e,f
b * a = b,c	b * b = d,d	b * c = f,e	b * d = h,f	b * e = a0,g
c * a = c,d	c * b = f,e	c * c = i,f	c * d = ab,g	c * e = ae,h
d * a = d,e	d * b = h,f	d * c = ab,g	d * d = af,h	d * e = b0,i
e * a = e,f	e * b = a0,g	e * c = ae,h	e * d = b0,i	e * e = be,a0
f * a = f,g	f * b = ab,h	f * c = ah,i	f * d = bd,a0	f * e = c0,aa