International Institute of Health Management Research (IIHMR), New Delhi.
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Postgraduate Diploma in Management
(Hospital and Health) 2020-22 Batch (November 2021)
Third Semester

Course Code: HIT-705: Managing Databases

Time: 2 hours **Maximum Marks: 70**

Databases in Healthcare

Note: *The Question paper is in 4 parts, Parts B and D carry negative, Marks so do not answer if you are not sure. Answering more than required may cover some mistakes with a Caveat*

Final Marks	**maximum**	**Marks earned**
Part I	**35**	
Part II	**20**	
Part III	**10**	
Part IV	**5**	

Part A Create any 1 of the following 3 scenarios

The following are actual healthcare applications wherein you have to create a database (do not bother about the front end scripting, only work through the SQL application of your choice e.g. MySQL)

A. create an E R diagram of 5-6 tables which are suitable for that particular scenario **10 marks**
B. Do the data definition with primary keys and foreign keys (along with relevant data types) **10 marks**
C. Explain which data terminology standard will you use for the same (e.g. ICD10pcs is for procedures) with import of the data and creation of appropriate linkage to the tables you have created for the same**.5 marks**
D. Make at least two or more reports which will be used regularly and important for day to day working **5 marks. examples are given alongside –**
E. One specific report which is asked for next to the scenario **5 Marks**

Scenario 1

A telemedicine app linking doctors and patients with appointments, payments and prescriptions

Part D example patient prescription and Bill

Part E Incidence of Diabetes within a particular locality

Scenario 2

A diagnostic centre wherein one can order investigations, ensure sample collection make payments, tracks the and collect reports with payments

Part D Investigation report and bill

Part E Incidence of RTPCR patients (COVID) with age and sex distribution

Scenario 3

A day care surgery centre – It does procedures of patients and bills them for the same. Follow up notes and prescriptions are provided

Part D Operation Notes and bill

Part E People operated over the last year by a particular consultant and payment of dues

Part II

Please mark (T)rue or (F)alse in the accompanying Box ☐. Each correct result has 1 (One) mark while a wrong one carries (-) 0.5. Max marks is 20 - even while 22 questions have been asked

1. All data gets stored as binary number ☐
2. Transactions can only manipulate transactional tables ☐
3. An UPDATE statement will fail if there is no WHERE clause ☐
4. A SELECT statement for getting data from two or more tables can be run even if no JOIN is provided for. ☐
5. IN and EXISTS Verbs used for subqueries ☐
6. If you want the subquery to run first, it has to be placed at the start of the SQL statement. ☐
7. SQLs can only be run using English language ☐
   .
8. For importing flat files, the terminator character for each row is the semicolon ☐
9. 1f = 31 ☐
10. Only full and valid entry of the primary key can unlock a locked row ☐
11. Entry of "0" into the PatientID column will be deemed invalid if the column has been made the Primary KEY with the datatype UNSIGNED INTEGER ☐
12. SELECT statements will not generate results for a hacker even he has managed to enter a valid username and password. ☐
13. The EXECUTE method is used to stop the database. ☐
14. One cannot have a database unless a good ER diagram, is created first ☐
15. Transactions can use master tables ☐
16. Validation checks are performed at the Client level ☐
17. Dates can be exported as Numbers, ☐
18. A ROLLBACK is the default first step of a Connection failure ☐
19. A 64 Bit OS will not allow a 32 bit computer to connect to the same. ☐

20. Usage of commas within data, precludes export of data as a CSV file ☐
21. A Shared Memory database connection uses the default database port as used in TCP/IP ☐
22. A good database engine will autocorrect a faulty SQL construct ☐

Part III 10 marks

Match the SQL Reserve Verb with the type of Language It belongs to . For example SELECT is M as it is part of DML
C for DCL, **D** for DDL, **M** for DML, **A** for Any – means can be used in more than one type AND **N** for Not a reserve SQL Verb
In the 4th column – explain the term

Q No	**Verb**	**Type**	**Explanation**
sample	**SELECT**	M	Get the data
1	**CREATE**		
2	**REVOKE**		
3	**FROM**		
4	**EXISTS**		
5	**InnoDb**		
6	**DENY**		
7	**ALLOW**		
8	**XOR**		
9	**RETRIEVE**		
10	**DROP**		

Part IV Multiple Choice Question 1 has 3 marks (6 X 0.5) with negative marking , Questions 2-4 have 1 mark each with negative marking All negative answers mean - 0.5. total marks will not exceed 5

1. In SQL, match the following VERBS with the description mentioned in the Box 1. (Write the matching number in the box e.g. A =[2] is already answered -*Hint – all have one match*

A. UPDATE
B. COMMIT
C. HAVING
D. * (star)
E. SELECT
F. IN
G. GRANT

1.	Part of a sub query
2.	Make a Change
3.	All the columns
4.	Freeze the changes
5.	Make an allowance
6.	Part of GROUP BY
7.	Get the data

2. Which of the following will invoke a validation check or not allowed to be input as an appointment date in your application *(select 1 or more *)*
   A. 21/3/2024
   B. Sunday 21st March 2015
   C. 2015-21-03
   D. 03/21/2015

3. What level of Normalization is generally felt to be adequate Healthcare
   A. None
   B. 1
   C. 2
   D. 4
   E. 5

4. What level of Normalization is required to create a formal report
   A. None
   B. 1
   C. 2
   D. 4
   E. 5

1A [2]
1B ☐
1C ☐
1D ☐
1E ☐
1F ☐
1G ☐

2A. ☐
2B. ☐
2C. ☐
2D. ☐
2E ☐

3A ☐
3B. ☐
3C. ☐
3D. ☐
3E ☐

4A ☐
4B ☐
4C ☐
4D ☐
4E ☐