

KATHMANDU UNIVERSITY
End Semester Examination
June/July, 2023

Marks Scored:

Level : B.Sc.
Year : II

Course : AGRS 227
Semester: II

Exam. Roll No. :

Time: 30 mins.

F.M. : 10

Registration No.:

Date :

SECTION "A"
[20Q. × 0.5 = 10 marks]

Encircle the most appropriate alternative from each set of choices.

1. Banding the tree with the help of a plastic sheet applied with grease at above from ground level to control mango mealy bugs.
a. 0.5 m b. 1 m c. 1.5 m d. 2 m
2. Must of the lures used in pest management should be replaced with in
a. 30 days b. 40 days c. 50 days d. 60 days
3. Khapra Beetle , *Trogoderma granarium* belongs to the family
a. Curculionidae b. Bruchidae c. Dermestidae d. Bostrichidae
4. Mustard sawfly belongs to the order
a. Diptera b. Lepidoptera c. Hymenoptera d. Hemiptera
5. Insects like moths, beetles and stink bugs have phototaxis.
a. Negative b. Positive c. Neutral d. Both a & c
6. In Chilopoda class of Arthropoda first pair of legs are modified to form
a. Poisonous gland b. Poisonous claw c. Poisonous eye d. Poisonous cell
7. The natural pyrethrum is extracted from the flower..... of chrysanthemum.
a. Head b. petals c. Calyx d. Corolla
8. To obtain the healthy seedlings free from citrus psylla the seedlings should be grown above
a. 1000 m b. 1100 m c. 1200 m d. 1300 m
9. Scientific name of Red Pumpkin beetle is
a. *Aulacophora lewisii* b. *Aulacophora frontalis*
c. *Aulacophora pumpkis* d. *Aulacophora foveicollis*
10. First time IPM started in Nepal with some technical aid of UN/FAO in Chitwan on
a. 1996 b. 1997 c. 2003 d. 1993

Fill in the blanks.

11. Arthropods have an open circulatory system with aheart that pumps hemolymph to a hemocoel body cavity.

12. MRL is the maximum amount of pesticide residue that is expected to remain on food products when a pesticide is used according to directions, that will not be a concern to human health.
13. Those characters that enable a plant tolerate or recover from attack of insects under conditions that would cause greater injury to the other plant of same species is called
14. The first insect scientifically employed for biological control program was Vedalia beetle with scientific name brought from Australia and introduced into California (USA).
15. Application of non-decomposed FYM in crop field helps to foster the population in the field.
16. White leaf hopper and rice aphid are insect of rice crop.
17. In female of BPH, wings are develop according to climatic condition, first one isor short wings (wings cover only half of abdomen), which develop before flowering.
18. In larva of mustard saw fly, there are black stripes on the back, and the body has a wrinkled appearance which helps to identify the larva.
19. lure is used to control and monitor the adults of cucurbit fruit fly.
20. In case of larva of *Helicoverpa armigera*, head is inside the fruits exposing rest of the body outside during feeding.

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Level : B.Sc.
Year : II
Time : 2 hrs. 30 mins.

Course : AGRS 227
Semester: II
F. M. : 40

SECTION "B"
(Short answer questions)
[6Q. × 4 = 24 marks]

Attempt *ANY SIX* questions.

1. List the advantages of HPR and describe their mechanisms of resistance.
2. Define cultural method of pest management. List different methods of cultural management used to control pest and describe any three of them.
3. Describe the biology and management of Yellow Stem Borer of Rice.
4. List five major and minor pests of solanaceous crops with common name, scientific name, order and family.
5. Define LD50. Classify pest on the basis of host association and biological characteristics.
6. List five major and minor pests of Legume crops with common name, scientific name, order and family.
7. How do you identify mustard sawfly and describe its management practices.

SECTION "C"
(Long answer questions)
[2Q. × 8 = 16 marks]

Attempt *ANY TWO* questions.

8. Name the biological control agents reared and released at field level by NARC to control the different pest and weeds. Describe about practices which are used to control the pest using biological control method.
9. List ten major and minor pests each of fruit crops with common name, scientific name, order and family. Describe the biology and management of oriental fruit fly.
10. Mention about signs of rat infestation with different control measures with and without using poison.

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Marks Scored:

Level : B.Tech.

Year : II

Exam Roll No. :

Time: 30 mins.

Course : AICS 201

Semester : I

F. M. : 10

Registration No.:

Date :

SECTION "A"
[20Q. × 0.5 = 10 marks]

Encircle the most appropriate option from each set of choices.

1. What is DBMS?
 - a. DBMS is a collection of queries.
 - b. DBMS is a high-level language.
 - c. DBMS is a programming language.
 - d. DBMS stores, modifies and retrieves data.
2. In which of the following formats is data stored in the database management system?
 - a. Image
 - b. Text
 - c. Table
 - d. Graph
3. The number of entities to which another entity can be related through a relationship set is called _____.
 - a. Cardinality
 - b. Entity
 - c. Schema
 - d. Attributes
4. The process of hiding the details of entities in the ER model is known as _____.
 - a. generalization
 - b. abstraction
 - c. specialization
 - d. inheritance
5. In Relational Algebra, queries are performed using _____.
 - a. entities
 - b. relationships
 - c. operators
 - d. objects
6. If there are 2 types of tuples, A & B, the _____ operation contains all the tuples that are either in A or B or both in A & B.
 - a. Project
 - b. Select
 - c. Union
 - d. Rename
7. Which of the following provides the ability to query information from the database and insert tuples into, delete tuples from, and modify tuples in the database?
 - a. DML(Data Manipulation Language)
 - b. DDL(Data Definition Language)
 - c. Query
 - d. Relational Schema
8. Which one of the following given statements contains the error?
 - a. select * from emp where empid = 10003;
 - b. select empid from emp where empid = 10006;
 - c. select empid from emp;
 - d. select empid where empid = 1009 and Lastname = 'SMITH';
9. In the following Query, which of the following can be placed in the Query's blank portion to display the salary from highest to lowest amount, and sorting the employees name alphabetically?
SELECT * FROM employees ORDER BY salary _____, name _____;
 - a. Ascending, Descending
 - b. Asc, Desc
 - c. Desc, Asc
 - d. Min, Max
10. 2NF relations are those that are in 1NF with all the attribute types dependent on the _____ key.
 - a. primary
 - b. foreign
 - c. composite
 - d. alternate

11. Anomalies are avoided by splitting the offending relation into multiple relations, is also known as _____.
- a. dependency
b. decomposition
c. precomposition
d. decomposition and precomposition
12. In context of database, let T1 and T2 are two concurrent transactions. Consider the following sequence of operations on data X.
T1: R(X) T1: W(X) T2: R(X) T2: W(X)
This is a _____ problem.
- a. dirty read
b. lost update
c. incorrect summary
d. unrepeatable read
13. In order to maintain transactional integrity and database consistency, what technology does a DBMS deploy?
- a. Triggers
b. Pointers
c. Locks
d. Cursors
14. How do we generally recover from a deadlock?
- a. By aborting all the transactions.
b. By rolling back all the transactions.
c. By rolling back only a selected number of transactions.
d. By implementing locks.
15. Given the following relation state, which of the following functional dependency is a valid one?

Roll no.	Name	Marks	Department	Course
1	Amit	78	CS	C1
2	Bijay	60	EE	C1
3	Amit	78	CS	C2
4	Bijay	60	EE	C3
5	Kiran	80	IT	C3
6	Dinesh	80	EC	C2

- a. Name, Marks \rightarrow Dept, Course
b. Dept \rightarrow Course
c. Course \rightarrow Dept
d. Name, Marks \rightarrow Dept
16. Modifications to the database occur while a transaction is still active, using the _____ modification technique.
- a. deferred
b. immediate
c. checkpoint
d. both A and B
17. _____ is a set of technologies for copying and distributing data and database objects from one database to another.
- a. Database Replication
b. Database Mirroring
c. Log Shipping
d. Database Recovery
18. Which of the statement are true?
Statement 1: NoSQL databases support ACID transactions.
Statement 2: NOSQL databases come in a variety of types based on their data model.
- a. Both statements 1 and 2 are true
b. None is true
c. Only statement 1 is true
d. Only statement 2 is true
19. Which NoSQL database is known for its ability to handle complex queries and data analysis?
- a. HBase
b. Cassandra
c. MongoDB
d. Couchbase
20. What is the benefit of using NOSQL database?
- a. Strict data modeling
b. Limited Scalability
c. Easy schema evolution
d. Limited data storage capacity