M.Sc. – I Semester – II Examination 2021-22

Agrochemicals and Pest Management

OET 2.1 Agronomy and Biotechnological Aspects in Plant Protection – I

Question Bank

Q.) Answer the following. **4 marks**

1) Plant protection measures of groundnut.
2) Write a note on classes of seeds.
3) Explain the sterilization methods of tissue culture.
4) Write a note on horizontal resistance.
5) Write note on vertical resistance
6) Write ecological factor on Cabbage
7) Note on Somatic Hybridization
8) Write seed and sowing of Tomato crop
9)Plant protection measures of Soybean
10)Plant protection measures of Cabbage
11)Plant protection measures of Tobacco
12)Define Seed Technology
13)Role of Seed Technology
14)Objectives of Seed Technology
15) Define Hybridization
16) Genetic engineering physical method
17) Genetic engineering chemical method
18) Genetic engineering biological method
19) Tissue culture sterilization method
20) Hardening of plants.
21) Escape method
22) Backcross method
23) Soil and climate of Bajra
24) Soil and climate of sorghum
25) Soil and climate brinjal

Q.) Answer the following. **8 marks**

1) Describe cultivation of sugarcane crop with respect to soil and climate, seed rate and sowing, fertilizer and plant protection measure.
2) Describe cultivation of tomato with respect to soil and seed rate and sowing method and fertilizer.
3) Describe cultivation of wheat crop with respect to soil and seed rate and sowing method and fertilizer.

4) Describe cultivation of Bajra with respect to soil and seed rate and sowing method and fertilizer.
5) Describe cultivation of Sorghum with respect to soil and seed rate and sowing method and fertilizer.
6) Describe cultivation of cotton with respect to soil and seed rate and sowing method and fertilizer.
7) Describe cultivation of Coconut with respect to soil and seed rate and sowing method and fertilizer.
8) Describe cultivation of Pomegranate with respect to soil and seed rate and sowing method and fertilizer.
9) Describe cultivation of Soybean with respect to soil and seed rate and sowing method and fertilizer.
10) Describe cultivation of Groundnut with respect to soil and seed rate and sowing method and fertilizer.
11) Describe cultivation of Brinjal with respect to soil and seed rate and sowing method and fertilizer.
12) Describe cultivation of Cabbage with respect to soil and seed rate and sowing method and fertilizer.
13) Describe cultivation of Cauliflower with respect to soil and seed rate and sowing method and fertilizer.
14) Write note seed producing.
15) Write a note on seed storage.
16) Write a note on seed distribution and marketing.
17) Write a note on seed certification.
18) Define seed technology? Explain the operations essential to a seed industry.
19) Explain techniques of producing hybrid seeds.
20) Write a note on seed processing and seed marketing.
21) Describe cultivation of tobacco crop with respect to soil and climate, seed rate and sowing, fertilizer and plant protection measure.
22) Define Seed technology. Write in brief seed classes.
23) Explain in brief technique of recombinant DNA technology.
24) Explain in brief the of tissue culture technique.
25) Explain methods in genetic engineering.
26) Write note on Bt cotton.
27) Write note on enzymes involved in r-DNA technology.
28) Explain r-DNA Technology for gene transfer.
29) Terminologies, inoculation and incubation in tissue culture.
30) Hardening of plant in tissue culture.
31) Write a note on anther culture.
32) Write a not protoplast isolation and culture.
33) What is vertical resistance? Explain interaction between resistance genes.
34) What are backcross and escape methods?
35) Interaction between resistances genes.
36) Molecular marker assisted selection.
37) Write note on somatic hybridization.
38) Role of Biotechnology in plant protection.
39) Write advantages and disadvantages of tissue culture technique

40) Write the concept of genetic engineering.
41) Explain the type of disease resistance.
42) Explain emasculation in hybridization.
43) Define Seed Technology. Write Role of Seed Technology. Objectives of Seed Technology.
44) Explain the seed germination and explain Epegeal germination.
45) Explain the seed germination and explain Hypogeal germination.

M.Sc. (Part -II) (Semester-IV) Examination, 2022
AGROCHEMICALS AND PEST MANAGEMENT
Diseases of crop plant II (Paper-SCT 4.3)
Question Bank

Q) Answer the following **4 Marks**

1) Write symptoms and control on Wilt of cucurbits
2) Comment on the Downy mildew on onion
3) Enlist and write its causal organism on diseases of Teak plant
4) Powdery mildew of Bhendi
5) Write symptoms and control on Wilt of Tomato
6) Comment on the Downy mildew on Grape
7) Enlist and write its causal organism on diseases of Rose
8) Powdery mildew of Chili
9) Write symptoms and control on Anthracnose of mango
10) Write symptoms and control on powdery mildew of cucurbits
11) Write symptoms and control on Wilt of cucurbits
12) Enlist and write its causal organism on diseases of Rose
13) Enlist and write its causal organism on diseases of teak
14) Powdery mildew of chili
15) Comment on the Downy mildew on cucurbits
16) Note on Blight of Tomato
17) Comment on the Downy mildew on apple
18) Leaf spot of chili
19) Rust of sisso
20) Comment on the root rot on sugar beet
21) Whit rust on Crucifies
22) Comment on the Brown rot of citrus
23) Powdery mildew on Santalum
24) Leaf spot on Chrysanthemum

Q.) Answer the following 8 Marks

1) Write the diseases of Tomato explain any one
2) Explain the Downey mildew and White rust of Crucifies
3) Enlist the diseases of mango write brief Anthracnose
4) Write symptoms and control measure on Anthracnose and stem rot of papaya
5) Explain the general symptoms of fungal diseases on crop plant
6) Explain brief black spot and Powdery mildew on rose
7) Write the general method of fungal disease control
8) Enlist the diseases of grape explain Downey mildew
9) Explain the symptoms and control wilt diseases
10) Write the powdery mildew and leaf spot of chili crop
11) Write the diseases of Mango explain any one
12) Explain the Downey mildew and White rust of Crucifies
13) Enlist the diseases of Banana write brief Anthracnose
14) Write symptoms and control measure on Rust and Powdery mildew of Teak
15) Explain the general symptoms of fungal diseases on crop plant
16) Explain brief black spot and Powdery mildew on rose
17) Write the general method of fungal disease control
18) Enlist the diseases of Cucurbits explain Downey mildew
19) Explain the common symptoms and control seed born diseases
20) Write the powdery mildew and leaf spot of Ber crop
21) Write the diseases of Bhendi explain any one
22) Explain the Downey mildew and White rust of cauliflower
23) Enlist the diseases of Banana write brief Anthracnose
24) Write symptoms and control measure on Anthracnose and stem rot of Guava
25) Explain the general control of fungal diseases on crop plant
26) Explain brief black spot and Powdery mildew on chrysanthemum
27) Write the general method of disease control
28) Enlist the diseases of citrus explain Downey mildew
29) Explain the symptoms and control powdery mildew diseases
30) Write the powdery mildew and leaf spot of Mango crop
31) Write the diseases of Pomegranate explain any one
32) Explain the Downey mildew and White rust
33) Enlist the diseases of Banana write brief Cigar rot
34) Write symptoms and control measure on Rust and Powdery mildew of sisso
35) Explain the general symptoms of rot diseases on crop plant
36) Explain brief leaf spot and Powdery mildew on Gladiolus
37) Write the general method of disease control Anthracnose
38) Enlist the diseases of Sugar beet explain Downey mildew

39) Explain the common symptoms and control soil born diseases
40) Write the powdery mildew and leaf spot of fig crop
41) Write the diseases of Lemon explain any one
42) Explain the Downey mildew and rust of Grape
43) Enlist the diseases of Apple write brief Scab
44) Write symptoms and control measure on Anthracnose and stem rot of Coconut
45) Explain the disease cycle of fungal diseases on crop plant
46) Explain brief Leaf spot and Powdery mildew on crop plant
47) Write the general method of plant disease control
48) Enlist the diseases of peas explain Downey mildew
49) Explain the symptoms and control fruit rot diseases
50) Write the powdery mildew and leaf spot of Tomato crop

M.Sc. – I Semester – II Examination 2021-22

Agrochemicals and Pest Management

SCT 2.1 - Economic Entomology

Question Bank

Que.1) Answer the following question. (4 marks)

1) Write a Control measures of mosquitoes.
2) Write a note on House hold pest.
3) Describe damages caused by hairy caterpillar.
4) Write the chemical controll measure for forest pest .
5) Write controll measure of snail and slug
6) write chemical controll for white grub
7) Describe life cycle and nature of damage of indian meal moth
8) What is mechanical controll for househlod pest
9) What is biological controll measure for store grain pest
10) Write nature of damage caused by bed bug
11) Write the mechanical controll for lizard
12) Write the nature of damge caused by helicoverpa arimigera
13) Write life cycle of mosquitoes and contoll measure
14) Write down the habit habitat of khapra bettle
15) What are the pest of live stock
16) Write nature of damage of caused by root knot nemaagricult
17) What are types of nematodes and write damage caused by nematode
18) What are molluscan pest of agriculture
19) Write down the nature of damage caused by Teak leaf difoliator
20) Write nature of damage of caused by Thrips .
21) Explain the types of of Rodents

Answer the following questions (8marks)

1) Write the nature of damage caused by indian field mouse with its conroll measure
2) Write controll measure of damageby housefly
3) Write down the types of Nematode
4) What is damage caused.cattle sucking louce
5) Write down the damaged caused by vertebrate pest
6) Write down thenature of damage caused by common green bee eater.
7) Write down infection caused by seed gall nematode
8) Write Nature of damage and control measure of porecupine.
9) Write the controll measure of Thrips
10) Write the nature of damage and life cycle of Aphids
11) What are polyphagus pest. Write chemical controll of polyphagus pest
Controll measure for Sucking cattle louse
12) Describe life cycle pattern of *Anopheles*with suitable diagram.

13) Describe the life cycle pattern of Cotton white fly and write its control measures.
14) Write nature of damage controll measure of hairy caterpillar.Describe life cycle pattern white grub
15) Describe the life cycle pattern of measures.grasshoppers.
16) Describe nature of damage caused Lesser grain borrer
17) Nature of damage and life cycle of Cut worm
18) Write the biological controll ,mechanical controll and chemical for Household pest
19) Write the biological controll ,mechanical controll for medicinalplant pest

Answer the following questions (8marks)

1) Describe life cycle pattern of nematode and write its damage caused in agriculture crop.
2) Describe life cycle pattern of mely bug its damage caused in agriculture p
3) Describe life cycle pattern of *edies egyptii*with suitable diagram.
4) Describe the life cycle pattern of pentatomidbug and write its control meascause
5) Describe life cycle pattern of *holotrichia councigunia*with suitable diagram.
6) Describe the life cycle pattern of saw tootheaded bettle and write its control measures
7) Describe life cycle pattern of silver fish with suitable diagram.
8) Describe the life cycle pattern of Rice weevil and write its control measures.
9) Describe life cycle pattern of Hadda bettlewith suitable diagram.
10) Describe the life cycle pattern of blow fly and write its control measures.
11) Describe the nature of damage and control measure of *Achatina fulica*
12) What are the vertebrate pest write nature of damage caused by Monkey and write its control measure
13) Describe life cycle pattern of Indian field Mouse and write nature of damages cause by it
14) Describe the life cycle pattern of stable fly and write its control measures.
15) Describe life cycle pattern of Termitswith suitable diagram. Write its controll measures
16) Describe the life cycle pattern of fruit fly and write its control measures.
18) Describe life cycle pattern of lesser grain borrerwith suitable diagram.
19) Describe the life cycle pattern of Digger wasp and write its control measures.
20) Describe life cycle pattern of *Apis gosipii*with suitable diagram.

Answer the following questions (8marks)

1)Describe life cycle pattern of leafeating catterpillarwith suitable diagram.
2) Describe the life cycle pattern of cockroach and write its control measures.
3) Describe life cycle pattern of *Rattus* rattus write its controll measures
4) Describe the life cycle pattern of Cotton white fly and write its control measures.
5)Describe types of nematode write lifecycle of root knot nematode
6) Describe life cycle pattern of Rice mothwith suitable diagram.
7)Describe the life cycle pattern of Locust and write its control measures.
8)Describe life cycle pattern of cyst nematodewith suitable diagram.
9)Describe the life cycle pattern of moly nematodeand write control measures
10)Describe the life cycle pattern of root gall nematode nature of damage and its controll measures
11)Describe life cycle pattern ofsaw toothed bettle with suitable diagram.
12) Describe the life cycle pattern of Indian meal moth and write its control measures.
13) Write the pest controll methods used in Agricultural pest controling
14) Describe the pest of live stock give its example write its controll measures

15) Describe nature of damage of cockroach give its biological and chemical controlling methods
16)Describe life cycle pattern of bed bugwith suitable diagram.
17) Describe the life cycle pattern of house fly and write its control measures.
18) Describe life cycle pattern of with suitable diagram.
19) Describe nature of damage of lizardand write its control measures.
20)Describe the life cycle pattern of Cotton white fly and write its control measures.

Answer the following questions (8marks)

1) Describe damages caused by cut worms and grasshopper
2) Describe damages caused by cockroach and housefly
3) Describe damages caused by Rodents and lizard
4) Describe the life cycle pattern sucking louce and write its control measures.
5) Describe the life cycle pattern ofrice moth and write its control measures.
6) Describe the life cycle pattern ofstable flyand write its control measures.
7) Describe the damage caused by indian meal moth and lesser grain borer
8)Describe the damage caused by opium capsule borrer and nematods
9)Describe the damage caused by the Monkey and wild bore and write their control measure
10)Describe the damage caused by the Household pest and vertebrate pest in detail
11)Describe the damage caused by Agriculture pest and pest of livestock
12)Describe the damage caused by of porcupine and write its control measures.
13)Describe the life cycle pattern of snail and slug write the controll measure
14)Describe the damage caused by pentatomid bug and as weevil and write its control measures
15)Write in detail about polyphagus pest and Household pest
16)Write the nature of damage caused by Termits and grasshopper
17)Write the nature of damage caused by steam borrer and write its control measures
18)Write the nature of damage and control measure caused by *Holotrichia serrata*
19)Describe the life cycle pattern of pulse bettle and write its control measures.
20)Describe the life cycle pattern of sesame defoliator and write its control measures.

Answer the following questions (8marks)

1)Write the biological control,mechanical controland biological control for polyhouse/green house pest
2)Write the nature of damage controll measure of wild bore
3)Write down the controll measure and lifecycle of Cotton white fly
4)Write the life cycle and nature of damage of Khapra bettle.
5)Describe life cycle pattern of Ash weevilwith suitable diagram.
6) Describe the life cycle pattern of leaf webber and write its control measures.
7) Describe life cycle pattern of *helicoverpa borrer*with suitable diagram.
8)Describe the life cycle pattern Army worm and write its control measures.
9)Describe the life cycle pattern of cutworm and write its control measures.
10)Describe the life cycle pattern of hadda bettle and write its control measures.
11)Describe the life cycle pattern of army worm and write its control measures.
12)Describe the life cycle pattern of sand fly and write its control measures.
13)Describe the life cycle pattern of blow fly and write its control measures.
14)Write in detail medicinal pest and polyphagus pest .
15)What are parasitic pest write in detail .

16)Describe the life cycle of Aphids and write its control measures
17)write down controll measure of the migratory endo parasitic nematode
18)write the nature of damage caused by Rodents give its chemical control
19)what is cultural control done for the Household pest with their example
20)write the nature of damage and controlmeasure of cyst nematode

M.Sc. – II Semester – IV

Agrochemicals and Pest Management

HCT – 4.2 Advances in Pest Control – II

Question Bank

Q.) Answer the following. (In Short) **Each Question for 4 marks.**

1) What are the semiochemicals?
2) Genetical method of pest control.
3) Sex pheromones.
4) Insect growth regulators.
5) *Bacillus thuringiensis*.
6) Nuclear Polyhydrosis Virus.
7) Attractants and repellants.
8) Hot water treatment for disease control.
9) Transgenic plants.
10) Write a note on sex pheromones
11) Explain in short attractants and repellants.
12) Write a note on Protenase inhibitor.
13) Comment upon use of Repellants in insect management.
14) Mode of action of viruses in insect control.
15) Pro- pesticide
16)Fungi as pest control
17) Bacteria As pest control
18) Chemoterilants
19) Allelochemicals
20) Juvenile and moulting harmone

Q.) **Answer the following. (In Brief)** **Each Question for 8 marks.**

1) What are the chemosterilant? Discus the importance of pheromones.
2) Define Somaclonal variability. Explain Protozoa in pest control.
3) Describe the methodology of Bt gene transfer in plants.
4) Define prey & predators. Write a note role of parasitoid in insect pest management
5) Describe the importance of IPM in pest management.
6) Define Allelochemicals. Write a note chemicals based on insect cuticle chitin.

7) Write a note on light activated pesticides.
8) Explain in detail mode of action of *Bacillus thuringiensis* in pest management.
9) Define Microbial insect control. Explain mode of action of fungus in pest management.
10) Describe the importance of biotechnological applications in pest management.
11) Describe in brief the methodology of genetic engineering to introduce gene into plant so as to produce transgenic plants.
12) Role and impact of predators in pest management.
13) Role and impact of prasitoids in pest management.
14) Role and impact of biological control in pest management.
15) Define microbial control. Write history groups of pathogens.
17) Write note on chemicals based on insect cuticle chitine.
18) Chemicals with new mode of action.
19) Insect growth regulators.
20) Transgenic plant with microbial origin and protenase inhibitor.
21) Explain in detail mode of action of Fungi in pest management.
21) Explain in detail mode of action of Fungi in pest management.
22) Explain in detail mode of action of Bacteria in pest management.
23) Explain in detail mode of action of Protoza in pest management.
24) Explain in detail mode of action of Viruses in pest management.
25) Explain predators and parasites in pest management.
26) Alarm pheromone
27) Describe in brief the methodology of genetic engineering to introduce gene into plant so as to produce transgenic plants.
28) Define the biological control. Explain the different techniques used in Biological control with suitable example.
29) Define parasite & predators. Write a note role of parasitoid in insect pest management.
30) Describe the importance of IPM in pest management.
31) Describe in detail insect growth regulators.
32) Explain in detail use of Fungus in pest management.
33) Write a note Light activated pesticides.
34) What are the semiochemicals? Discus the importance of pheromones.
35) Define Somaclonal variability. Explain Nucleur Polyhydrosis Virus in pest control.
36) Biotechnology approaches in insect control.
37) Genetic engineering.
38) Mode of action of pathogens in insect control.
39) Chemicals based on endocrine system.
40) Propesticides in insect control.

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M.Sc.-I
Real Analysis-II
Question Bank

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1. Prove that outer measure of an interval is its length.
2. If $\{A_n\}$ be a countable collection of sets of real numbers then
$$m^*\left(\bigcup_n A_n\right) \leq \sum_n m^*(A_n).$$
3. Prove that outer measure m^* is countably sub additive.
4. If A is countable set then prove that $m^*(A) = 0$.
5. Prove that Cantor's set C is an uncountable set with outer measure zero.
6. Prove that outer measure m^* is translation invariant.
7. Let any set A and any $\epsilon > 0$, there is an open set O such that $A \subset O$ and $m^*(O) \leq m^*(A) + \epsilon$ then prove that there is a set $G \in G_\delta$ such that $A \subseteq G$ and $m^*(A) = (m^*(G)$.
Where G_δ is set which is Countable intersection of open sets.
8. If E is measurable then $\tilde{E}$ is also measurable.
9. If $m^*(A) = 0$ then A is measurable.
10. If E_1 and E_2 are measuable sets then prove that $E_1 \cup E_2$ is measurable.
11. If A be any set and $E_1, E_2, ..., E_n$ be a finite sequence of disjopint measurable sets then show that
$$m^*\left(A \cap \left[\bigcup_{i=1}^{n} E_i\right]\right) = \sum_{i=1}^{n} m^*(A \cap E_i).$$
12. Prove that collection M of all measurable sets is σ-algebra.
13. Prove that inteval (a, ∞) is measurable.
14. Show that Every Borel set is measurable.
15. If $\{E_i\}_{i=1}^{\infty}$ be a sequence of measurable sets then prove that
$$m\left(\bigcup_i E_i\right) \leq \sum_i m(E_i).$$
Also deduce that if sets E_i's are pairwise disjoint then
$$m\left(\bigcup_i E_i\right) = \sum_i m(E_i).$$
16. If $\{E_n\}_{n=1}^{\infty}$ be an infinite decreasing sequence of measurable sets and $m(E_1) < \infty$ then prove that
$$m\left(\bigcap_{i=1}^{\infty} E_i\right) = \lim_{n\to\infty} m(E_n).$$

17. If $\{E_n\}_{n=1}^{\infty}$ be an infinite increasing sequence of measurable sets then prove that

$$m\Big(\bigcup_{i=1}^{\infty} E_i\Big) = \lim_{n\to\infty} m(E_n).$$

18. If E be a measurable set then prove that translation $E+y$ is a measurable set and $m(E+y) = m(y)$.

19. If E be a measurable set then prove that there exist a Borel set B_1 and B_2 such that, $B_1 \subseteq E \subseteq B_2$ and $m(B_1) = m(E) = m(B_2)$.

20. If E_1 and E_2 are measurable sets then prove that,

$$m(E_1 \cup E_2) + m(E_1 \cap E_2) = m(E_1) + m(E_2)$$

21. If $E \subset [0,1)$ be a measurable set and for each $y \in [0,1)$ then show that $E+y$ is measurable and $m(E+y) = m(E)$.
Where $E + y = \{x + y : x \in E\}$.

22. Show that there exist a non-measurable set in the interval $[0,1)$.

23. If a function f is measurable then show that set $\{x|f(x) = \alpha\}$ is measurable for all $\alpha \in \mathbb{R}$.

24. If f and g are the two measurable functions on the same domain.Then prove that functions $f + c, cf, f + g, f - g$ and $f.g$ are also measurable where c is constant.

25. Prove that the sum,product and difference of two simple function are simple.

26. If f is measurable function and $f = g$ a.e., then prove that g is measurable.

27. Show that continuous function defined on a measurable set is measurable.

28. State and Prove Egoroff's theorem.

29. If $\phi = \sum_{i=1}^{n} a_i \chi_{E_i}$ where $E_i \cap E_j = \phi$ for $i \neq j$ and each E_i is measurable set with finite measure then prove that

$$\int \phi = \sum_{i=1}^{n} a_i \; m(E_i).$$

30. If ϕ and ψ be the simple function which vanishes outside a set o finite measure E. Then prove the following results:
    (a) $\int a\phi + b\psi = a\int \phi + b\int \psi$
    (b) $\phi \geq \psi$ a.e $\implies \int \phi \geq \int \psi$

31. If f be a bounded function defined on a measurable set E of finite measure then

$$\inf_{f\leq\psi} \int_E \psi(x)dx = \sup_{f\geq\phi} \int_E \phi(x)dx$$

    for all simple functions ϕ and ψ if and only if f is measurable.

32. State and prove Bounded Convergence Theorem.

33. If f and g are two non negative measurable function then,
    (a) $\int\limits_E cf = c\int\limits_E f, c > 0$
    (b) $\int\limits_E f + g = \int\limits_E f + \int\limits_E g$
    (c) $f \leq g$ a.e. then $\int\limits_E f \leq \int\limits_E g$

34. State and prove Fatou's Lemma.

35. State and prove Monotone Convergence Theorem.

36. If $\{u_n\}$ be a sequence of non negative measurable functions and $f = \sum\limits_{n=1}^{\infty} u_n$ then prove that $\int f = \sum\limits_{n=1}^{\infty} \int u_n$.

37. If f be a non negative measurable function and $\{E_i\}$ be a disjoint sequence of measurable sets and $E = \cup E_i$ then prove that $\int\limits_E f = \sum\limits_i \int\limits_{E_i} f$.

38. Let f and g are two non negative measurable function. If f is integrable over E and $g(x) < f(x)$ on E then prove that g is also integrable and $\int\limits_E f - g = \int\limits_E f - \int\limits_E g$.

39. If f be non negative measurable function which is integrable over E.Then prove that $\epsilon > 0, \exists \delta > 0$ such that for every set $A \subseteq E$ with measure $m(A) < \delta$ we have,$\int\limits_A f < \epsilon$.

40. If f and g are two integrable functions over E then,
    (a) cf is integrable over E, and $\int\limits_E cf = c\int\limits_E f$
    (b) $f + g$ is integrable over E, and$\int\limits_E f + g = \int\limits_E f + \int\limits_E g$
    (c) $f \leq g$ a.e. then $\int\limits_E f \leq \int\limits_E g$
    (d) If A and B are disjoint measurable sets contained in E, then $\int\limits_{A\cup B} f = \int\limits_A f + \int\limits_B f$

41. If f is integrable function, prove that $|f|$ is also integrable and $\left|\int f\right| \leq \int\limits_E |f|$.Does integrability $|f|$ implies that of f.

42. State and Prove Lebesgue Convergence Theorem.

43. State and Prove Generalized Lebesgue Convergence Theorem.

44. If f_n is sequence of measurable functions defined on a measurable set E of finite measure and $f_n \to f$ a.e.then f_n convergence to f in measure.
    i.e. Convergence a.e. implies convergence in measure.

45. If f_n be sequence of measurable functions that converges to f in measure, prove that there is a sub-sequence $\{f_{n_k}\}$ which converges to$f$ a.e.

46. If $f(x) = |x|$, $x \in [-1, 1]$ find $D^+f(x), D_+f(x), D^-f(x)$, and $D_-f(x)$ at$x = 0$.Whether f is differentiable at $x = 0$?

47. If f be an increasing real valued function on the interval $[a, b]$. Then f is differentiable almost everywhere and the derivative f' is Lebesgue measurable and also $\int_a^b f'(x)dx \leq f(b) - (a)$.

48. If f is function of bounded variations on $[a, b]$ then prove that

    (a) $P_a^b - N_a^b = f(b) - f(a)$

    (b) $T_b^a = P_a^b + N_a^b$

49. A f is function of bounded variations on $[a, b]$ if and only if f is difference of two monotone real valued functions on $[a, b]$.

50. If f is function of bounded variations on $[a, b]$ then f is differentiable a.e. and f' is measurable.

51. If f is integrable on $[a, b]$ then the function F defined by

$$F(x) = \int_a^x f(t)dt$$

    is a continuous function of bounded variations.

52. If f is integrable on $[a, b]$ and $\int_a^x f(t)dt = 0$ for all $x \in [a, b]$ then prove that $f = 0$ a.e. on $[a, b]$.

53. If f is bounded and measurable on $[a, b]$ and if $F(x) = F(a) + \int_a^x f(t)dt$ then prove that $F'(x) = f(x)$ a.e. on $[a, b]$.

54. If f is integrable on $[a, b]$ and if $F(x) = F(a) + \int_a^x f(t)dt$ then prove that $F'(x) = f(x)$ a.e. on $[a, b]$.

55. If f is absolutely continuous on $[a, b]$ then f is a function of bounded variations on $[a, b]$ and hence f is differentiable a.e. on $[a, b]$

56. A function F is an indefinite integral of some integrable function if and only if F absolutely continuous on $[a, b]$

57. Prove that every absolutely continuous function is indefinite integral of its derivative.

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Agrochemicals and Pest Management

HCT – 2.1 Chemistry of pesticide and their formulation II

Question Bank

Q.2) Answer the followings. (4 marks for each)

1)What are rodenticides ? Give two examples.

2)Give the synthesis of PCNB.

3)Explain the applications of thiocynates.

4)Give synthesis of methomyl.

5)Whatare fumigants? Give two example.

6)Give the synthesis of 2,4 D .

7)Give the synthesis of Ziram.

8)Give the synthesis of Dicofol.

9)Explain structure activity relationship of carbonate with acetyl cholin .

10)Give the synthesis and uses of dimethyl phthalate.

11)Give the synthesis and uses ofTenuron.

12)Give the synthesis of Endosulhpon.

13)Give the synthsis of carbofuron.

14)Write note on chlorobenside.

15)Give the synthesis and uses of parafluroparaside.

16)Write note on methuron.

17) Write note on derivatives of pentachlorophenol.

18)Describe Phenolic compound as pesticide.

19)Give synthesis and uses of CCC.

20)Write note on amine salt as pesticide.

21)Give the synthesis and applications nitralin.

22)Write note on rodenticides .Give information about arsenic as rodenticide.

23)Give the synthesis , properties of bendicarb.

24)Write not on chemistry and applications of acetamiprid.

25)Write note on sulphides.

Q.3 Answer the following. (8 marks for each)

1)Explain the role of urea derivatives as herbicide Give synthesis and properties of fenuron, manuron.

2)Write synthesis, properties and applications of Ziram.

3What are Phenol carbamate ? Give synthesis of begoan and aldicarb.

4)Give synthesis of butachlor. Describe role of organochloro pesticide with reference persistence in the environment.

5)Discuss the uses of computer based equipment for pesticide analysis.

6) Give the synthesis and uses dimethyl phthalate.

7)Write note on thiocynate as pesticide .Discuss thiocynates of aliphatic and Aromatic series.

8)Explain mercaptans as pesticide. Give the synthesis of captan and phthalan.

9)Write note on carbamate pesticide .

10)Write note on suphur fungicide.

11)What are organochloro pesticide ?Write note on BHC and 2,4D.

12)Write note on chlorophenols.

13)Write note on computer assisted correlation analysis in the development of pesticides.

14)What are fungicides? Discuss preparation and applications of organomercurials .

15)Write note on development of methods for collaborative.

16)Explain synthesis and applications of propanil and parquat nitrofen.

17)Explain the persistence of the pesticide in environment and biota , resistance by pests.

18)Discuss in detail fumigants .Give the preparation and applications of Hydrogen cyanide.

19)Write note on copper salts as fungicides.

20)Give the preparation and applications of carbon disulphide.

21) Discuss in detail Hydrazine compounds as pesticide.

22)Give the preparation and applications of tin compound.

23)Write note on Thallium salt as rodenticides

24)Explain in detail Diethyl tolumide.

25)Write note on azo compounds as pesticides.

26)Explain in detail isomerism and kinetic studies of hydrolysis of pesticides.

27)Write note on computer optimization in emulsion formulations.

28)Discuss Synthesis , Properties and uses of thiocarbamic acids.

29)Write note on synthesis and applications of sulphides and tetradifon.

30)Give the preparation and application of zinc oxide.

31)Write note on Sodium chlorate as herbicide.

32)Give the preparation and application of zinc phosphate .

33)Write note on inorganic pesticides.

34)Give the synthesis and uses of BHC and PCNB.

35)Give the Synthesis and applications of Dinoseb and Dinobuton.

36)Explain amino acids as herbicides . write note on trifluralin andbenefin.

37)Discuss paranitrophenol, 2,4 dintrophenol.

38)Explain 2,4,5 trichlorophenol .

39)Write note on nitro compound as pesticides explain nitrostyrene.

40)Give synthesis, properties uses of bulbosan .

41)Explain synthesis, properties and applications of pentachloro anisole and Chloronil.

42) Give synthesis, properties uses of brossisan and halonitro naphthalin.

43)Write note on synthesis, properties and applications of 2,4 dinitro 6 methyl phenol and 2 cyclohexyl 4,6 dintrophenol.

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Agrochemicals and Pest Management

HCT – 2.2 Analytical Techniques for Agrochemicals

Question Bank

Q.2) Answer the followings. (4 marks for each)

1)Write note on specific and equivalence condunctance.

2)Write purpose of sampling.

3)Describe instrumentation of AAS.

4)Describe classical method for locating end point in potentiometric titration.

5)Describe precipitation titration.

6)Describe construction and working of Quinhydrone electrode.

7)Write applications of atomic absorption spectroscopy.

8)Explain theory of solvent extraction.

9)Write application of conductivity measurement in the analysis of salinity and soil moisture.

10)Write applications of turbidimetry.

11)Describe gravimetric estimation of Fe.

12)Write note on gravimetric estimation of SO_4^{--}

13)Write note on phenolphthalein as an indicator.

14)Write note on methyl rad indicator.

15)Write note on digestion or aging.

16)Write note on Erichrome Black T.

17)Give the construction and working of Whastone bridge.

18)Describe sampling of solids.

19)Describe sampling of liquids and gases.

20)Write note on compounds which are used as stationary phase in TLC.

21)Write note on choice between Nephelometry and turbidimetry.

22)Write note on theory and reflection versus scattering.

23)Describe acids and bases by Arrhenius .

24)What are the characteristics of good precipitate.

25)How gelatinous precipitate is difficult to filter.

Q.3)Answer the followings. (8maks for each)

1)What are acid base titrations? Explain their types with suitable example.

2)Explain determination of salinity halides, moisture of soil by conducto meter.

3) Describe principle, development and applications of column chromatography.

4)What is Paper chromatography ?Explain various types of development of paper chromatography.

5)Write note on gravimetric estimation of Fe.

6)Describe principle, working and applications of Thin layer chromatography.

7)Write principle and working of flame photometer.

8)What are complexometric titrations? Describe metallochromic indicators.

9)Describe construction an uses of salt bridge.

10)Draw the circuit diagram of P^H meter and explain its working .

11)Define redox titration . Explain different types of redox titration.

12)Describe principle and application of Nephelometer.

13)What is chromatography? Write classification of chromatography with principle of each class.

14)Describe principle and application of polarimeter in optical active pesticide.

15)Write note on acid base indicators in details.

16)Give the principle and methodology of stripping voltametry.

17)Discuss the mechanism of precipitate formation.

18)What is digestion ?Point out its advantages in gravimetric analysis.

19)Discuss various forms of precipitate.

20)What is co precipitation and post precipitation.

21)Define the term nucleation .How it can take place?

22)Give the difference between coprecipitation and post precipitation.

23)Write note on general steps involved in gravimetric analysi.

24)Define the followings. A)coagulation b)Saturation c)ignition d)supersaturation solution.

25)What are the types of EDTA titration? Explain in detail direct titration.

26)Discuss the Ostwald's theory.

27)What is volumetric analysis ?What are types of volumetric analysis? What are certain conditions necessary to fulfill titrimetric analysis.

28)Define the followings .a)end pont b)titrand c)standard solution d)Titrant e)equivalence point d)primary standard.

29)Write note on theory of acid base indicators.

30)Discuss the quinoid theory.

31)Write note on supersaturation ,precipition and particle size.

32)Write not on gravimetric estimation of SO_4^{--}.

33)How is the Rf value for a spoton a TLC plate calculated ?What can thr Rf value b used for.

34)Why can iodine be used in the visualization of TLC spot.

35)What is potentiometric titration ? Give the principle of potentiometric titration.

36)Give the types of potentiometric titration. Discus the applications of potentiometric titrations.

37)What are the types of conductometric titrations.

38)Write note on advantages and limitations of conductometric titration.

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Agrochemicals and Pest Management

SCT 2.1 - Economic Entomology

Question Bank

Que.1) Answer the following question. (4 marks)

1) Write a Control measures of mosquitoes.
2) Write a note on House hold pest.
3) Describe damages caused by hairy caterpillar.
4) Write the chemical controll measure for forest pest .
5) Write controll measure of snail and slug
6) write chemical controll for white grub
7) Describe life cycle and nature of damage of indian meal moth
8) What is mechanical controll for househlod pest
9) What is biological controll measure for store grain pest
10) Write nature of damage caused by bed bug
11) Write the mechanical controll for lizard
12) Write the nature of damge caused by helicoverpa arimigera
13) Write life cycle of mosquitoes and contoll measure
14) Write down the habit habitat of khapra bettle
15) What are the pest of live stock
16) Write nature of damage of caused by root knot nemaagricult
17) What are types of nematodes and write damage caused by nematode
18) What are molluscan pest of agriculture
19) Write down the nature of damage caused by Teak leaf difoliator
20) Write nature of damage of caused by Thrips .
21) Write the types of of Rodents

Answer the following questions (8marks)

1) Write the nature of damage caused by indian field mouse with its conroll measure
2) Write controll measure of damageby housefly
3) Write down the types of Nematode
4) What is damage caused.cattle sucking louce
5) Write down the damaged caused by vertebrate pest
6) Write down thenature of damage caused by common green bee eater.
7) Write down infection caused by seed gall nematode
8) Write Nature of damage and control measure of porecupine.
9) Write the controll measure of Thrips
10) Write the nature of damage and life cycle of Aphids
11) What are polyphagus pest. Write chemical controll of polyphagus pest

Controll measure for Sucking cattle louse
12) Describe life cycle pattern of *Anopheles*with suitable diagram.
13) Describe the life cycle pattern of Cotton white fly and write its control measures.
14) Write nature of damage controll measure of hairy caterpillar.Describe life cycle pattern white grub
15) Describe the life cycle pattern of measures.grasshoppers.
16) Describe nature of damage caused Lesser grain borrer
17) Nature of damage and life cycle of Cut worm
18) Write the biological controll ,mechanical controll and chemical for Household pest
19) Write the biological controll ,mechanical controll for medicinalplant pest

Answer the following questions (8marks)

1) Describe life cycle pattern of nematode and write its damage caused in agriculture crop.
2) Describe life cycle pattern of mely bug its damage caused in agriculture p
3) Describe life cycle pattern of *edies egyptii*with suitable diagram.
4) Describe the life cycle pattern of pentatomidbug and write its control meascause
5) Describe life cycle pattern of *holotrichia councigunia*with suitable diagram.
6) Describe the life cycle pattern of saw tootheaded bettle and write its control measures
7) Describe life cycle pattern of silver fish with suitable diagram.
8) Describe the life cycle pattern of Rice weevil and write its control measures.
9) Describe life cycle pattern of Hadda bettlewith suitable diagram.
10) Describe the life cycle pattern of blow fly and write its control measures.
11) Describe the nature of damage and control measure of *Achatina fulica*
12) What are the vertebrate pest write nature of damage caused by Monkey and write its control measure
13) Describe life cycle pattern of Indian field Mouse and write nature of damages cause by it
14) Describe the life cycle pattern of stable fly and write its control measures.
15) Describe life cycle pattern of Termitswith suitable diagram. Write its controll measures
16) Describe the life cycle pattern of fruit fly and write its control measures.
18) Describe life cycle pattern of lesser grain borrerwith suitable diagram.
19) Describe the life cycle pattern of Digger wasp and write its control measures.
20) Describe life cycle pattern of *Apis gosipii*with suitable diagram.

Answer the following questions (8marks)

1)Describe life cycle pattern of leafeating catterpillarwith suitable diagram.
2) Describe the life cycle pattern of cockroach and write its control measures.
3) Describe life cycle pattern of *Rattus* rattus write its controll measures
4) Describe the life cycle pattern of Cotton white fly and write its control measures.
5)Describe types of nematode write lifecycle of root knot nematode
6) Describe life cycle pattern of Rice mothwith suitable diagram.
7)Describe the life cycle pattern of Locust and write its control measures.
8)Describe life cycle pattern of cyst nematodewith suitable diagram.
9)Describe the life cycle pattern of moly nematodeand write control measures
10)Describe the life cycle pattern of root gall nematode nature of damage and its controll measures
11)Describe life cycle pattern ofsaw toothed bettle with suitable diagram.
12) Describe the life cycle pattern of Indian meal moth and write its control measures.

13) Write the pest controll methods used in Agricultural pest controling
14) Describe the pest of live stock give its example write its controll measures
15) Describe nature of damage of cockroach give its biological and chemical controlling methods
16)Describe life cycle pattern of bed bugwith suitable diagram.
17) Describe the life cycle pattern of house fly and write its control measures.
18) Describe life cycle pattern of with suitable diagram.
19) Describe nature of damage of lizardand write its control measures.
20)Describe the life cycle pattern of Cotton white fly and write its control measures.

Answer the following questions (8marks)

1) Describe damages caused by cut worms and grasshopper
2) Describe damages caused by cockroach and housefly
3) Describe damages caused by Rodents and lizard
4) Describe the life cycle pattern sucking louce and write its control measures.
5) Describe the life cycle pattern ofrice moth and write its control measures.
6) Describe the life cycle pattern ofstable flyand write its control measures.
7) Describe the damage caused by indian meal moth and lesser grain borer
8)Describe the damage caused by opium capsule borrer and nematods
9)Describe the damage caused by the Monkey and wild bore and write their control measure
10)Describe the damage caused by the Household pest and vertebrate pest in detail
11)Describe the damage caused by Agriculture pest and pest of livestock
12)Describe the damage caused by of porcupine and write its control measures.
13)Describe the life cycle pattern of snail and slug write the controll measure
14)Describe the damage caused by pentatomid bug and as weevil and write its control measures
15)Write in detail about polyphagus pest and Household pest
16)Write the nature of damage caused by Termits and grasshopper
17)Write the nature of damage caused by steam borrer and write its control measures
18)Write the nature of damage and control measure caused by *Holotrichia serrata*
19)Describe the life cycle pattern of pulse bettle and write its control measures.
20)Describe the life cycle pattern of sesame defoliator and write its control measures.

Answer the following questions (8marks)

1)Write the biological control,mechanical controland biological control for polyhouse/green house pest
2)Write the nature of damage controll measure of wild bore
3)Write down the controll measure and lifecycle of Cotton white fly
4)Write the life cycle and nature of damage of Khapra bettle.
5)Describe life cycle pattern of Ash weevilwith suitable diagram.
6) Describe the life cycle pattern of leaf webber and write its control measures.
7) Describe life cycle pattern of *helicoverpa borrer*with suitable diagram.
8)Describe the life cycle pattern Army worm and write its control measures.
9)Describe the life cycle pattern of cutworm and write its control measures.
10)Describe the life cycle pattern of hadda bettle and write its control measures.
11)Describe the life cycle pattern of army worm and write its control measures.
12)Describe the life cycle pattern of sand fly and write its control measures.
13)Describe the life cycle pattern of blow fly and write its control measures.

14)Write in detail medicinal pest and polyphagus pest .
15)What are parasitic pest write in detail .
16)Describe the life cycle of Aphids and write its control measures
17)write down controll measure of the migratory endo parasitic nematode
18)write the nature of damage caused by Rodents give its chemical control
19)what is cultural control done for the Household pest with their example
20)write the nature of damage and controlmeasure of cyst nematode

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Agrochemicals and Pest Management

OET 2.1 Agronomy and Biotechnological Aspects in Plant Protection – I

Question Bank

Q.) Answer the following. **4 marks**

1) Plant protection measures of groundnut.
2) Write a note on classes of seeds.
3) Explain the sterilization methods of tissue culture.
4) Write a note on horizontal resistance.
5) Write note on vertical resistance
6) Write ecological factor on Cabbage
7) Note on Somatic Hybridization
8) Write seed and sowing of Tomato crop
9)Plant protection measures of Soybean
10)Plant protection measures of Cabbage
11)Plant protection measures of Tobacco
12)Define Seed Technology
13)Role of Seed Technology
14)Objectives of Seed Technology
15) Define Hybridization
16) Genetic engineering physical method
17) Genetic engineering chemical method
18) Genetic engineering biological method
19) Tissue culture sterilization method
20) Hardening of plants.
21) Escape method
22) Backcross method
23) Soil and climate of Bajra
24) Soil and climate of sorghum
25) Soil and climate brinjal

Q.) Answer the following. **8 marks**

1) Describe cultivation of sugarcane crop with respect to soil and climate, seed rate and sowing, fertilizer and plant protection measure.
2) Describe cultivation of tomato with respect to soil and seed rate and sowing method and fertilizer.
3) Describe cultivation of wheat crop with respect to soil and seed rate and sowing method and fertilizer.

4) Describe cultivation of Bajra with respect to soil and seed rate and sowing method and fertilizer.
5) Describe cultivation of Sorghum with respect to soil and seed rate and sowing method and fertilizer.
6) Describe cultivation of cotton with respect to soil and seed rate and sowing method and fertilizer.
7) Describe cultivation of Coconut with respect to soil and seed rate and sowing method and fertilizer.
8) Describe cultivation of Pomegranate with respect to soil and seed rate and sowing method and fertilizer.
9) Describe cultivation of Soybean with respect to soil and seed rate and sowing method and fertilizer.
10) Describe cultivation of Groundnut with respect to soil and seed rate and sowing method and fertilizer.
11) Describe cultivation of Brinjal with respect to soil and seed rate and sowing method and fertilizer.
12) Describe cultivation of Cabbage with respect to soil and seed rate and sowing method and fertilizer.
13) Describe cultivation of Cauliflower with respect to soil and seed rate and sowing method and fertilizer.
14) Write note seed producing.
15) Write a note on seed storage.
16) Write a note on seed distribution and marketing.
17) Write a note on seed certification.
18) Define seed technology? Explain the operations essential to a seed industry.
19) Explain techniques of producing hybrid seeds.
20) Write a note on seed processing and seed marketing.
21) Describe cultivation of tobacco crop with respect to soil and climate, seed rate and sowing, fertilizer and plant protection measure.
22) Define Seed technology. Write in brief seed classes.
23) Explain in brief technique of recombinant DNA technology.
24) Explain in brief the of tissue culture technique.
25) Explain methods in genetic engineering.
26) Write note on Bt cotton.
27) Write note on enzymes involved in r-DNA technology.
28) Explain r-DNA Technology for gene transfer.
29) Terminologies, inoculation and incubation in tissue culture.
30) Hardening of plant in tissue culture.
31) Write a note on anther culture.
32) Write a not protoplast isolation and culture.
33) What is vertical resistance? Explain interaction between resistance genes.
34) What are backcross and escape methods?
35) Interaction between resistances genes.
36) Molecular marker assisted selection.
37) Write note on somatic hybridization.
38) Role of Biotechnology in plant protection.
39) Write advantages and disadvantages of tissue culture technique

40) Write the concept of genetic engineering.
41) Explain the type of disease resistance.
42) Explain emasculation in hybridization.
43) Define Seed Technology. Write Role of Seed Technology. Objectives of Seed Technology.
44) Explain the seed germination and explain Epegeal germination.
45) Explain the seed germination and explain Hypogeal germination.
46) Explain the sowing methods with respect to seed rate Coconut, Pomegranate, Soybean .
47) Intermediate gene transfer.

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Agrochemicals and Pest Management

HCT – 4.1 Agro Based Marketing Management

Question Bank

Q.1. Answer the following (Short notes) **4marks**

1. Scope of Marketing
2. Importance Marketing
3. Process of Marketing Plan
4. Classification of Rural Markets
5. Problems of Rural Marketing
6. Importance of price in 4p's
7. Green Marketing
8. Nature of Green Marketing
9. Base for Market Segementation
10. Types of consumer goods
11. Nature of marketing plan
12. Base for Market Segmentation
14. Stages of Product Life Cycle
15. Problems of agro based Marketing
16. Green marketing
17. Nature of Green Marketing
18. Industrial Goods
19. Function of WTO

20. Functions of NABARD

21. Importance of Marketing

22. Product Mix

23. Importance of Consumer Behavior

24. Buying Process

25. Importance of marketing research

Q.2) Answer the following (Long Questions) 8marks

1. What is marketing? Explain the Scope/Functions Marketing

2. What is marketing? Explain the Importance of Marketing

3. Explain marketing planning ant it's Process

4. Explain rural marketing ant problems of rural marketing

5. What is market environment ? Explain element of marketing environment

6. Impact of changing marketing environment on agro based business

7. What is Market ? Explain types of Market

8. What is Market Segmentation? Explain base for market segmentation

9. What is product life cycle? Explain various stages of product life cycle

10. Use of 7 p's in agro based marketing

11. Explain the role of marketing in agro based business

12. Explain problems of agro based Marketing

13. what is green marketing ? Explain the nature green marketing

14. What is consumer behavior? Explain the factor determining the consumer behavior

15. What is consumer behavior? Describe importance of studying consumer buying behavior

16. What is buying process? Explain buying process

17. What is market research? Explain the steps in market research

18. What is market research? Explain the importance of market research

19. Describe the classification of rural market

20. What is promotion? Explain the promotion mix

21. What is Price? Explain the factors determining price

22. What is marketing ethics? Explain importance of marketing ethics

23. What is product? Explain different types of product

24. Explain consumer goods and industrial goods.

25. What is price? Explain factors determining price.

26. What is price? Describe importance of price.

27. What is promotion? Explain the various methods of promotion.

28. What is e-business? Explain various types of e-business.

29. What is e-business? Explain various mobile apps used for e-business.

30. What is virtual marketing? Explain the importance of virtual marketing in competitive market.

31. Explain explain advantages and disadvantages of e-business.

32. Explain recent trends in marketing.

33. What is distribution channels? Define various distribution channels.

34. Describe various factors determining distribution channels.

35. Describe the importance of distribution channels.

36. Describe the importance of promotion mix.

37. What is advertise? Explain various social media apps used for advertising.

38. Explain Marketing ethics .

39. Use of internet in marketing.

M.Sc. – II Semester – IV

Agrochemicals and Pest Management

HCT – 4.2 Advances in Pest Control – II

Question Bank

Q.) Answer the following. (In Short) **Each Question for 4 marks.**

1) What are the semiochemicals?
2) Genetical method of pest control.
3) Sex pheromones.
4) Insect growth regulators.
5) *Bacillus thuringiensis*.
6) Nuclear Polyhydrosis Virus.
7) Attractants and repellants.
8) Hot water treatment for disease control.
9) Transgenic plants.
10) Write a note on sex pheromones
11) Explain in short attractants and repellants.
12) Write a note on Protenase inhibitor.
13) Comment upon use of Repellants in insect management.
14) Mode of action of viruses in insect control.
15) Pro- pesticide
16)Fungi as pest control
17) Bacteria As pest control
18) Chemoterilants
19) Allelochemicals
20) Juvenile and moulting harmone

Q.) **Answer the following. (In Brief)** **Each Question for 8 marks.**

1) What are the chemosterilant? Discus the importance of pheromones.
2) Define Somaclonal variability. Explain Protozoa in pest control.
3) Describe the methodology of Bt gene transfer in plants.
4) Define prey & predators. Write a note role of parasitoid in insect pest management
5) Describe the importance of IPM in pest management.
6) Define Allelochemicals. Write a note chemicals based on insect cuticle chitin.

7) Write a note on light activated pesticides.
8) Explain in detail mode of action of *Bacillus thuringiensis* in pest management.
9) Define Microbial insect control. Explain mode of action of fungus in pest management.
10) Describe the importance of biotechnological applications in pest management.
11) Describe in brief the methodology of genetic engineering to introduce gene into plant so as to produce transgenic plants.
12) Role and impact of predators in pest management.
13) Role and impact of prasitoids in pest management.
14) Role and impact of biological control in pest management.
15) Define microbial control. Write history groups of pathogens.
17) Write note on chemicals based on insect cuticle chitine.
18) Chemicals with new mode of action.
19) Insect growth regulators.
20) Transgenic plant with microbial origin and protenase inhibitor.
21) Explain in detail mode of action of Fungi in pest management.
21) Explain in detail mode of action of Fungi in pest management.
22) Explain in detail mode of action of Bacteria in pest management.
23) Explain in detail mode of action of Protoza in pest management.
24) Explain in detail mode of action of Viruses in pest management.
25) Explain predators and parasites in pest management.
26) Alarm pheromone
27) Describe in brief the methodology of genetic engineering to introduce gene into plant so as to produce transgenic plants.
28) Define the biological control. Explain the different techniques used in Biological control with suitable example.
29) Define parasite & predators. Write a note role of parasitoid in insect pest management.
30) Describe the importance of IPM in pest management.
31) Describe in detail insect growth regulators.
32) Explain in detail use of Fungus in pest management.
33) Write a note Light activated pesticides.
34) What are the semiochemicals? Discus the importance of pheromones.
35) Define Somaclonal variability. Explain Nucleur Polyhydrosis Virus in pest control.
36) Biotechnology approaches in insect control.
37) Genetic engineering.
38) Mode of action of pathogens in insect control.
39) Chemicals based on endocrine system.
40) Propesticides in insect control.

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Agrochemicals and Pest Management

HCT – 4.3 Manufacture of Agrochemicals

Question Bank

Q.2 Answer the following. (4 marks for each)

1)Describe multiple effect evaporators.

2) Describe R &D laboratory specification.

3)Describe synthon &Synthetic equivalent with example.

4)Explain principle of liquid liquid extraction.

5)Write note on agrograde suphur.

6)Write note on HRD.

7)Desrcibe occupational health management industries.

8)Write synthesis and manufacturing process of Dimethote.

9)Write note on fitration.

10)Describe the process of fractional distillation.

11)Write types of dryers . Explain the working of tray dryer.

12) Write note on centrifuge machine.

13)Explain what precautions should be taken while handling hazardous chemicals.

14)Write note on industrial safety.

15)Explain in brief technology transfer process.

16)Write note on evaporation.

17)Describe the manufacturing process of capstans with flow sheet diagram.

18)Plan the synthesis of 2,4 D

19)Explain the term purchase order..

20)Which factors are responsible for seting up a research laboratory ?

21)Describe purpose of HRD.

22)Describe contaminates crystallizer.

23)Write note on chemoselectivity.

24)Explain multiple effect evaporator.

Q.3 Answer the following. (8 marks for each)

1) Describe batch & contaminates crystallizers

2)Explain functions of marketing manager.

3)Plan the synthesis of Endosulphon and 2 4 D by using retro synthetic approach.

4)Write the synthesis and unit operation of maneb.

5)Describe the main features of industrial licensing policy.

6)Define disconnection and explain different types of disconnections.

7) What is distillation? Desribe fractional distillation with diagram.

8) Describe training method of R & D.

9) Write synthesis &unit process of phosphamedon.

10) Explain gas absorption in towers.

11) Explain health education for workers.

12) Write note on ASTM & BIS specification.

13) Explain the working of centrifuges.

14)Write note on chemo selectivity.

15)Explain the constructions and working of sand filters.

16)Write synthesis ,mode of action , environmental effect and applications of thiacloprid.

17)Write synthesis ,mode of action , environmental effect and applications of thiophenate methyl.

18)Describe types od dryers. Explain working of compartment tray and spray dryers.

19) Write synthesis ,mode of action , environmental effect and applications of chlorothaonil.

20)Write note on occupational hazards like Asthma and Pulmonary disease.

21)Give the retrosynthesis of IAA and Captan

22)Describe ISI specifications and standard..

23)Write note on plate and packed column stamm distillation.

24)Describe quality control concept.

25)Write note on marketing of agrochemicals.

26)Give the information of marketing research.

27)Write note on man power.

28) Write synthesis ,mode of action , environmental effect and applications of Imidacloprid.

29) Write synthesis ,mode of action , environmental effect and applications of Acetamiprid.

30) Write synthesis ,mode of action , environmental effect and applications of Metalaxyl.

31) Write synthesis ,mode of action , environmental effect and applications of Thiamethoxam.

32)Write note on handling of chemicals and pesticides.

33)Give the information of occupational hazards like dermatitis and cancer.

34)Give the information about medical organization for major accident hazard control.

35)Describr importance and various kinds of first aids .

36)Write note on occupational health management industrial safety.

37)Describe administration in small scale industry.

38)Explain planning of small scale units economics.

M.Sc. (Part -II) (Semester-IV) Examination, 2022
AGROCHEMICALS AND PEST MANAGEMENT
Diseases of crop plant II (Paper-SCT 4.3)
Question Bank

Q) Answer the following **4 Marks**

1) Write symptoms and control on Wilt of cucurbits
2) Comment on the Downy mildew on onion
3) Enlist and write its causal organism on diseases of Teak plant
4) Powdery mildew of Bhendi
5) Write symptoms and control on Wilt of Tomato
6) Comment on the Downy mildew on Grape
7) Enlist and write its causal organism on diseases of Rose
8) Powdery mildew of Chili
9) Write symptoms and control on Anthracnose of mango
10) Write symptoms and control on powdery mildew of cucurbits
11) Write symptoms and control on Wilt of cucurbits
12) Enlist and write its causal organism on diseases of Rose
13) Enlist and write its causal organism on diseases of teak
14) Powdery mildew of chili
15) Comment on the Downy mildew on cucurbits
16) Note on Blight of Tomato
17) Comment on the Downy mildew on apple
18) Leaf spot of chili
19) Rust of sisso
20) Comment on the root rot on sugar beet
21) Whit rust on Crucifies
22) Comment on the Brown rot of citrus
23) Powdery mildew on Santalum
24) Leaf spot on Chrysanthemum

Q.) Answer the following 8 Marks

1) Write the diseases of Tomato explain any one
2) Explain the Downey mildew and White rust of Crucifies
3) Enlist the diseases of mango write brief Anthracnose
4) Write symptoms and control measure on Anthracnose and stem rot of papaya
5) Explain the general symptoms of fungal diseases on crop plant
6) Explain brief black spot and Powdery mildew on rose
7) Write the general method of fungal disease control
8) Enlist the diseases of grape explain Downey mildew
9) Explain the symptoms and control wilt diseases
10) Write the powdery mildew and leaf spot of chili crop
11) Write the diseases of Mango explain any one
12) Explain the Downey mildew and White rust of Crucifies
13) Enlist the diseases of Banana write brief Anthracnose
14) Write symptoms and control measure on Rust and Powdery mildew of Teak
15) Explain the general symptoms of fungal diseases on crop plant
16) Explain brief black spot and Powdery mildew on rose
17) Write the general method of fungal disease control
18) Enlist the diseases of Cucurbits explain Downey mildew
19) Explain the common symptoms and control seed born diseases
20) Write the powdery mildew and leaf spot of Ber crop
21) Write the diseases of Bhendi explain any one
22) Explain the Downey mildew and White rust of cauliflower
23) Enlist the diseases of Banana write brief Anthracnose
24) Write symptoms and control measure on Anthracnose and stem rot of Guava
25) Explain the general control of fungal diseases on crop plant
26) Explain brief black spot and Powdery mildew on chrysanthemum
27) Write the general method of disease control
28) Enlist the diseases of citrus explain Downey mildew
29) Explain the symptoms and control powdery mildew diseases
30) Write the powdery mildew and leaf spot of Mango crop
31) Write the diseases of Pomegranate explain any one
32) Explain the Downey mildew and White rust
33) Enlist the diseases of Banana write brief Cigar rot
34) Write symptoms and control measure on Rust and Powdery mildew of sisso
35) Explain the general symptoms of rot diseases on crop plant
36) Explain brief leaf spot and Powdery mildew on Gladiolus
37) Write the general method of disease control Anthracnose
38) Enlist the diseases of Sugar beet explain Downey mildew

39) Explain the common symptoms and control soil born diseases
40) Write the powdery mildew and leaf spot of fig crop
41) Write the diseases of Lemon explain any one
42) Explain the Downey mildew and rust of Grape
43) Enlist the diseases of Apple write brief Scab
44) Write symptoms and control measure on Anthracnose and stem rot of Coconut
45) Explain the disease cycle of fungal diseases on crop plant
46) Explain brief Leaf spot and Powdery mildew on crop plant
47) Write the general method of plant disease control
48) Enlist the diseases of peas explain Downey mildew
49) Explain the symptoms and control fruit rot diseases
50) Write the powdery mildew and leaf spot of Tomato crop