COMMON REGULATIONS TO ALL PH.D. DEGREE PROGRAMMES OF FACULTY OF AGRICULTURE (FULL-TIME / PART-TIME / EXTERNAL) (2019-2020)

REGULATIONS

1. SYSTEM OF EDUCATION

1.1 These rules and regulations shall govern the Ph.D. Programmes leading to the award of Degree of Doctor of Philosophy in the concerned subject in the Faculty of Agriculture, Annamalai University. They shall come into force with effect from the academic year 2019-2020.

1.2 The semester system shall be followed for all the Ph.D. degree programmes.

1.3 The duration of doctoral programmes is as follows:

Programme	Minimum Years	Maximum Years
Full Time	3	5
Part Time / External	4	6

2. DEFINITIONS

2.1 An "Academic year" shall consists of two semesters.

2.2 "Semester" means an academic term consisting of 105 instructional days excluding final theory examinations.

2.3 "Course" means a unit of instruction to be covered in a semester having specific No., title and credits.

2.4 "Credit hour" means, one hour lecture plus two hours of library or home work or two and half hours of library/field practicals per week in a semester.

2.5 'Credit load' of a student during a semester is the total number of credits registered by that student during that particular semester.

2.6 'Grade Point' of a course means the value obtained by dividing the percentage of marks earned in a course by 10 and the Grade Point is expressed on a 10 point scale and rounded off to two decimal places.

2.7 'Credit Point' means the grade point multiplied by corresponding credit hours.

2.8 'Grade Point Average'(GPA) means the quotient of the total credit points obtained by a student in various courses at the end of each semester, divided by the total credit hours taken by the student in that semester. The grading is done on a 10 scale and the GPA has to be corrected to two decimals.

2.9 'Overall Grade Point Average'(OGPA) means the quotient of cumulative credit points obtained by a student in all the courses taken from the beginning of the first semester of the year divided by the total credit hours of all the subjects which he / she had completed up to the end of a specified semester and determines the overall performance of a student in all subjects during the period covering more than one semester. The OGPA has to be arrived at the second decimal place.

3. PROGRAMMES OFFERED

The details of various Ph.D. programmes offered in the Faculty of Agriculture are as follows:

Agrl. Business Management
Agrl. Economics
Agrl. Entomology
Agrl. Extension
Agrl. Microbiology
Agrl. Biotechnology
Agronomy
Genetics and Plant Breeding
Horticulture
Plant Pathology
Seed Science & Technology
Soil Science and Agrl. Chemistry

4. ELIGIBILITY FOR ADMISSION

Candidates seeking admission to Ph.D. programme should satisfy the following requirements.

4.1 Candidates with two year master's degree programmes from Universities recognized by Annamalai University are eligible to apply for Ph.D. programmes of the university (Table 1).

4.2 Candidates who have undergone the programme under conventional system should possess not less than a second class Master's degree. The candidates under trimester system should possess a minimum OGPA of 3.00 out of 4.00. For those under semester system 7.00 out of 10.00 is required for various Doctoral programmes. However, this will not apply to SC/ ST candidates, nominees of State Government / Annamalai University / ICAR / and Government of India for whom a pass in the concerned degree is sufficient.

Table – 1: Eligibility Criteria

Doctoral Degree Programmes	Eligibility
1. Agrl. Business Management	MBA in Agribusiness
2. Agrl. Economics	M.Sc.(Ag.) in Agrl. Economics/ Agrl. Marketing Management.
3. Agrl. Entomology	M.Sc.(Ag.) in Entomology
4. Agrl. Extension	M.Sc.(Ag.) in Agrl. Extension
5. Agrl. Microbiology	M.Sc.(Ag.) in Agrl. Microbiology
6. Agrl. Biotechnology	M.Sc.(Ag.) in Genetics and Plant Breeding / Agrl. Biotechnology
7. Agronomy	M.Sc.(Ag.) in Agronomy
8. Genetics and Plant Breeding	M.Sc.(Ag.) in Genetics and Plant Breeding
9. Horticulture	M.Sc (Ag.) Hort. / M.Sc. (Hort.) /M.Sc. (Hort.) in Fruit Science / Vegetable Science/Floriculture and Landscape Gardening or Architecture / Plantation, Spices, Medicinal and Aromatic Crops
10. Plant Pathology	M.Sc.(Ag.) in Plant Pathology

11. Seed Science & Technology	M.Sc.(Ag.) in Seed Science & Technology
12. Soil Science and Agrl. Chemistry	M.Sc.(Ag.) in Soil Science and Agrl. Chemistry

4.3 Full time programme:

All full time research scholars shall undergo course work for two semesters as prescribed by the Department. Duration of the programe will be for three years.

4.4 Part Time Programme

The part time programme will be offered to the in-service candidates / Research Scholars of projects of Annamalai University. The candidates of this University should route their application through HOD and Dean, Faculty of Agriculture. The duration of the programme will be of 4 years. The in-service candidates / Research Scholars of projects of Annamalai University will be permitted to register the Ph.D. programme by course work and they have to undergo one year course work by utilizing any eligible leave for that period.

4.5. External Registration

The duration of the programme will be of 4 years. The following are the additional conditions for registration for a Ph.D. programme under external category

1. The candidates must register under a research supervisor who is a member of the Teaching Faculty of this University
2. The candidate should be working as Asst. Professor/Associate Professor/Professor or in equivalent positions on permanent basis in a recognized college where facilities for carrying out research work are available and have post graduate departments for Agrl. subjects or working as research assistants in private or government institutions having research and development facilities and who fulfill the eligibility conditions.
3. The candidate should have a recognized co-supervisor in parent department of the organization. The co- supervisor may be from other colleges / organization located from the same place if such persons are not available in the parental organizations.
4. The candidate shall undergo the course of the required credits during I year of the programme in Annamalai University Campus. He / She shall carryout the research at his / her parental organization for the entire of period of the programme.
5. NOC (No Objection Certificate) is to be produced from the employer of the institution / Organization where he / she is working and attached along with the applicationii. Co-supervisor acceptance letter should be also be enclosed withthe application form.

5. SELECTION PROCEDURE

A candidate who wishes to undertake Ph.D. programme of this University either full time or part time or external registration should apply in the prescribed form on or before the due date.

Applications which fulfil the above conditions (mentioned in the Prospectus) will be scrutinized by a Departmental Research Committee consisting of the Head of the

Department (Coordinator), two Professors, one senior Associate Professor and one senior Assistant Professor (not more than five). Eligible candidates will have to appear for entrance test and interview on the dates specified by the University. The selection of the candidates shall be based on marks obtained in the qualifying degree, a written test and an interview. The weightage for Qualifying Degree Examination will be given for 50 marks. The written test shall comprise objective type questions and examine research aptitude, grasp of the subject, intellectual ability and general knowledge of the prospective candidates. The question paper for the written test shall be prepared for one hour duration. Question papers will be set and evaluated by the DRC for 25 marks. The interview will be conducted for 25 marks. The cut off marks for the selection shall be fixed as 50 percent. NET qualified candidates are exempted from the entrance test, but they have to appear for the interview. The minutes of the DRC together with the recommendation will be placed before the Vice-Chancellor who in consultation with the Dean of the Faculty and Head of the Department will select and admit the applicant to work under the guide proposed.

6. CREDIT GRADE POINT REQUIREMENTS

6.1. A student enrolled for Doctoral program to become eligible for the degree is required to complete 75 credits inclusive of 45 credits of research as detailed below

Sl.No.	Details	Credit Hours
1.	Major-Courses	15
2.	Minor-Courses	8
3.	Supporting-Courses	5
4.	Seminar	2
5.	Research	45
	Total	75

6.2. In a semester, a full time Ph.D. student can register a maximum of 15 credits excluding research. However, the research credits registered should not exceed 12 per semester. Semester wise distribution of credits are given in the respective Ph.D., programmes. The total research credits for PT and EXT candidates should be distributed in all the eight semesters. The Ph.D. students (FT/PT/EXT) should complete their course work within two semesters in the first year in Annamalai University campus.

6.3. Requirements for Ph.D. programme shall also include successful completion of thesis research in the major field of study and submission of thesis thereon.

7. ATTENDANCE REQUIREMENT

7.1. “One hundred percent attendance is expected from each scholar. A student who fails to secure 80 per cent of attendance in each subject separately for theory and practical, shall not be permitted to appear for the final examination in that subject and shall be awarded ‘E’ (incomplete) and will be required to repeat the subject when ever offered.

7.2. In respect of the student who has absented himself / herself for classes with or without valid reasons, that period will be treated as absence only and not as leave. Also, no attendance will be given for writing make up tests.

7.3 In case of new admission, for calculating 80 percent attendance in the first semester, the number of working days will be calculated from the date of joining of the students who are permitted to join late due to administrative reasons. However, for genuine reasons, condonation of attendance deficiency may be considered by the Vice - chancellor on the recommendation of the Advisory committee, HOD and Dean, Faculty of Agriculture on payment of condonation fee prescribed by the university.

7.4 Students absenting from the classes with prior permission of the HOD on official University business shall be given due consideration in computing attendance.

7.5. In respect of students who had absented for the mid-semester examination on University business with prior permission of the HOD and Dean, Faculty of Agriculture, the make up mid-semester examination should be conducted ordinarily within 15 working days from the date of conduct of the mid-semester examination.

7.6. The students who absent himself/herself for mid-semester examination in a subject on genuine reasons shall be permitted on the recommendation of the course teacher / Research Supervisor and Head of the Department concerned. Missing examination should be completed within 15 working days from the date of respective examination on payment of missing examination fee prescribed by the university.

7.7 An employee of the University admitted to the programme leading to the Ph.D. Degree as a part-time internal candidate in accordance with these ordinances shall be required to work for a minimum period of 30 days per annum during the period of research. They shall carry out research work without affecting their regular duty.

7.8 External scholars are required to mark attendance maintained by the research supervisor/co-supervisor for a minimum compulsory period of 30 days per annum during their period of research.

7.9 External scholars are required to visit Annamalai University campus at the end of every year on a specified date to appear before the Research Advisory Committee (RAC) for review of the progress of their research work.

7.10 The attendance certificate signed by the research supervisor/co-Supervisor shall be sent to the Director, CARE through the respective Head of the Department and the Dean at the time of submission of the Synopsis.

8. RESEARCH ADVISORY COMMITTEE (RAC)

8.1. Each Ph.D. scholar shall have an RAC to guide the student in carrying out his/her programme. A Research Advisory Committee shall be constituted with the approval of the University for each candidate (full-time, part-time and external) separately, immediately after his/her admission. The purpose of the RAC is to provide expert opinion on frontline research. The Research Advisory Committee shall consist of the Head of the Department or a Professor nominated by the Vice-Chancellor as the Chairperson, the Research Supervisor as the Convener, and two members who are experts in the field nominated by the Vice-Chancellor (one member from the same Department, and the other member from another related Department of our

University/another University in Tamil Nadu/other states. The research supervisor in consultation with the HOD will propose the other three members.

8.1.1. Research Supervisor

Every student shall have a research supervisor (among the recognized guides), who will be appointed by the Vice-Chancellor on the recommendation of the Head of the Department and the Dean, Faculty of Agriculture. Research supervisors approved by the Vice-Chancellor only can be the guide for the students.A teacher having Ph.D with 5 years service and PG teaching is eligible for teaching and guiding Ph.Dprogramme. A teacher should have a minimum of three years of service before retirement for allotment of doctoral candidates. The research supervisors who wish to avail leave/lien/deputation beyond a period of six months shall propose a Co-supervisor in the concerned subject for the candidates registered with them and it may be intimated to the University well in advance. The final approval of the proposal rests with the Vice-Chancellor. For external candidate, a Co-supervisor from his/her parental organization will be the Co-Chairman of the Advisory Committee.

8.1.2. Functions of the RAC

The Research Advisory Committee shall have the following functions:

1. Discuss, advice and recommend on all matters connected with the candidate's research from admission till the submission of the thesis.
2. Approve the topic of research and the synopsis.
3. Assess and approve the progress reports of Ph.D. students in the prescribed format and to report to the University on the fitness or otherwise of the candidate to proceed with his/her research work for the Ph.D.
4. If necessary, recommend and approve change of title of dissertation/Thesis, change of research supervisor and status of Researcher (full time to part time and vice-versa)
5. Conduct and supervise the presentation by the candidate of the final draft of his/her proposed thesis for approval before the submission of synopsis of the thesis to the University and to give a certificate to this effect to be submitted along with the synopsis.

8.1.3. The Research Advisory Committee will meet once in six months:

- to scrutinize the research proposal / progress report submitted by the candidate
- to assess the conduct of experiments/field work, peruse laboratory notebooks, data recording, analysis, and publication
- to review and endorse the annual progress report of the candidate.
- to approve the synopsis of the thesis.

The convener will convene the Research Advisory Committee meetings with intimation to the Director, CARE.

8.2. Changes in RAC

The proposals for changes in the RAC is to be sent to the Director, CARE, through HOD and Dean for approval, if it is keenly felt that such changes are absolutely necessary.

8.3. Change of Research Supervisor

8.3.1 Change of research supervisor shall not be permitted as a routine. In exceptional cases, such change may be permitted, if valid reasons are provided by the candidates. The Committee headed by the Vice-Chancellor shall look into the request of the petitioner, if there is any conflict between the scholar and the research supervisor. The research supervisor under whom the scholar has originally registered shall give a "No Objection Certificate" and the new proposed Research Supervisor should give a "Certificate of Willingness" to guide the candidate. The final decision will rest with the University. However, the Vice-Chancellor, on the recommendation of the RAC and Dean's Committee, has the right to assign a new research supervisor to the research scholar.

8.3.2 When the change of Research Supervisor is approved, the candidate shall work for a minimum of one year with the new Research Supervisor if the topic of his/her research is different under the new supervisor, provided he/she fulfils the attendance requirements.

8.4 Change of Topic of Research

8.4.1 Change of the specific area of research may be permitted within one year from the date of admission and request must be submitted with the recommendations of the RAC. In such cases, the minutes of the RAC meeting must include whether the course work undertaken by the candidate is relevant to the new research area and the competence of the research supervisor in this field.

8.4.2 If the RAC is of the view that there is a major change in the specific area of research and is not relevant to the course work undertaken, the candidates will have to go through the process of fresh examination pertaining to the area of research.

8.5. Absence of member during qualifying / final Viva-Voce examination

Under extra-ordinary circumstances if the qualifying/ final viva-voce examination to Ph.D. student has to be conducted in the absence of one or two RAC members, permission to conduct the examination by co-opting another member in such contingencies should be obtained from the Director, CARE in advance.

9. EVALUATION OF STUDENT'S PERFORMANCE

All students shall abide by the rules for evaluating the course work under the semester system of education, as prescribed from time to time by the university.

9.1. Examinations

There will be two examinations viz. mid semester and final examination. Wherever the course has practical, there will be a final practical examination also.

9.2. Grading

- The duration of mid semester examinationwill be of one hour and final examinations in theory and practical will be conducted for three hours each.
- The mid semester examinations will be conducted by course teachers during the ninth week of the semester as per the scheme drawn by HOD, evaluate and send the marks obtained by the students to the Director, CARE through HOD within seven working days.
- There will be final examination separately for theory and practical which will be conducted by the University. Each final theory and practical examinations will be evaluated by two examiners (one will be the course teacher and another will be the senior faculty of the Department).
- The distribution of marks will be as indicated below:

S.No	Examination	Course with practical	Course without practical	Course without theory
1	Mid-semester	30	30	30
2	Final theory	40	70	-
3	Final practical	30	-	70
	Total	**100**	**100**	**100**

The question paper model and distribution of marks for mid semester and final theory examinations are as follows.

Mid semester :

1	Objective Type	10 out of 12	(10 x 0.5)	5 marks
2	Definitions/concepts	5 out of 7	(5 x 1)	5 marks
3.	Short notes	5 out of 7	(5 x 2)	10 marks
4	Essay type	2 out of 3	(2x5)	10 marks

Final Theory:

Courses without practicals (70 marks)

1.	Short notes	5 out of 7	(5 x 4)	20 marks
2	Essay type	5 out of 7	(5 x 10)	50 marks

Courses with practicals (40 marks)

1.	Short notes	5 out of 7	(5 x2)	10 marks
2	Essay type	5 out of 7	(5 x 6)	30 marks

9.3. Minimum Marks for Pass

a) The student should secure a minimum of 60 per cent marks separately in the theory and practical and an aggregate of70 per cent to securea pass in the subject .

b) Each subject shall carry a maximum of 100 marks for purpose of grading. The grading will be done as grade point. i.e., the percentage of marks earned in a subject is divided by 10. The grade point is expressed on a 10 point scale upto two decimals.

c) Students who secure marks below 70 per cent in a subject will be awarded 'F' grade and students without having the required minimum attendance of 80 per cent will not be allowed to write the final examination and they will be awarded 'E' grade. Students who secure 'F' grade should appear for re-examination in the subsequent semester.

d) If a student secured 'E' grade, he/she has to re-register and attend the course again during the next academic year.

9.4. Minimum GPA Requirement

A Ph.D student to continue his/her studies in the University, should maintain certain minimum Average Grade Point prescribed here under:

a) Earn a Grade Point of 7.00 for a pass in each subject.

b) For purpose of continuing as a student in the university, a candidate is required to earn an Overall Grade Point Average of not less than 7.50 at the end of each semester

c) A Ph.D. student may repeat the course(s) in which he/she gets a Grade point below 7.50 and above 7.0 to improve the OGPA.

9.5. Re-Examination

Re-examination is permitted only for the final theory and practical examinations. The students who secure 'F' grade are permitted to write the re-examinations as and when conducted with the permission of university. The re-examination fee as prescribed by university per course is to be paid on or before the prescribed date. A student is permitted to write the final theory and practical examinations only two times during the course period of three years excluding the regular final examination. In the event of a student who fails to secure a pass in the two re-examinations permitted, he/she has to re-register for the course along with juniors. The marks secured in mid semester examination will be retained and the student should produce the practical record during re-examination. The registration for the re-examination shall be done after mid-semester examination on the date specified by the Director, CARE. Each registration is considered as an attempt even if the student absents for the examination.

9.6. Return Of Valued Answer Papers

The valued answer papers of mid-semester shall be shown to the students after the examination. Discrepancies if any, in awarding marks, the student can approach the teacher concerned immediately for rectification. The answer paper should be retained with the course teacher for six months and then disposed off. Evaluated final theory papers have to be retained up to six months by the Director, CARE after the conduct of examination and then disposed off.

10. CREDIT SEMINAR

Seminar is compulsory for all students and each student should register and present two seminars each with 0+1 credits. A student can register only one seminar in a semester and only after successful completion of the first seminar the student is permitted to register for the second seminar.

10.1. Credit Seminar Topic

10.1.1The seminar topic should be only from the major field and should not be related to the area of thesis research.

10.1.2 The seminar topics are to be assigned to the students by the research supervisor in consultation with HOD within three weeks after commencement of the semester.

10.1.3. Under the guidance and supervision of the research supervisor of the RAC,the student should prepare a seminar paper containing not less than 50 typed and printed pages with a minimum number of 75 references covering the recent 10 years time after reviewing all the available literature and present the seminar after completion of 80% attendance in the semester in the presence of the HOD, RAC, staff and post-graduate students of the concerned department.

10.1.4. The circular on the presentation of the seminars may be sent to other Departments to enable those interested to attend the same.

10.1.5. The research supervisor will monitor the progress of the preparation of the seminar and correct the manuscript. The student will submit 2 copies of the corrected manuscript to the HOD through chairman before presentation.

The student will incorporate the suggestions and carry out corrections made during the presentation and resubmit three fair copies to the HOD (one to Dept. library, the second to the research supervisor and the third for student) within 15 days after presentation.

10.1.6. The performance of the student in the credit seminar will be evaluated and grade point awarded by the HOD along with the RAC for 100 marks. Grade Point may be given based on the following norms:

Details	Marks
Coverage of literature	40
Presentation	30
Use of audio visual aids	10
Capacity to participate in discussion and answer the questions	20
Total	100

11. QUALIFYING EXAMINATION

Only those students who successfully complete the qualifying examination will be admitted to candidacy of the degree. The qualifying examination consists of written and oral examination.

11.1. Minimum requirement for Qualifying Examination

The students who have completed all the courses and earned a grade point average of not less than 7.5 will be permitted to appear for the qualifying examination. Students who do not satisfy these requirements shall not be permitted to take up the qualifying examination. The qualifying examination will be conducted after the completion of course work.

11.2. Selection of Examiner

A panel of five external examiners for qualifying examinations shall be given by the RAC in consultation with HOD before three months of the date of completion of the student's course work to the Director, CARE. One of them will be appointed as external examiner.

11.3. Written Examination

The written examination consists of two papers covering major and minor subjects only.The Director, CARE will conduct the examination by obtaining the question paper from Head of Department to be prepared in consultation with the course teachers concerned.

The question paper for the written examination will be of 3 hours duration and each question (Essay type) need not be restricted to any particular topic in a course but it should be a comprehensive covering of each unit of the syllabus of each course. The written examinations will be conducted at the same time in all disciplines. The answer papers will be evaluated by the research supervisor and Head of the Department or a senior faculty nominated by the Head of the

Department. Qualifying marks for passing the examination will be 60. The viva-voce will be conducted by the external examiner after the candidates passes the qualify examination.

11.4. Qualifying viva-voce Examination

The RAC shall conduct the qualifying viva-voce examination with one external member who shall be a specialist in the subject from outside the university

11.5. The Heads of Departments will monitor and coordinate the conduct of the qualifying viva.The performance of the candidate will be graded as Satisfactory / Unsatisfactory.

11.6. Communication of Results of Qualifying Examination

The research supervisor shall act as chairman for the examination committee and shall be responsible for communicating the results of the examination to the Controller of Examination through HOD in the prescribed format.

11.7. Failure /Absence in Qualifying Examination

When a student fails or absents for the qualifying examination, he/she may apply again for permission to appear for re-examination to the Controller of Examination with the recommendation of the chairman of the RAC and Head of the Department. A student, who applies for re-examination should attend written examination and viva-voce. Re-examination shall not take place earlier than three months after the first examination and it will be conducted by the advisory committee as previously indicated. If a student fails in the re-examination, further re-examination will be considered on the recommendation of the RAC, HOD and Dean, Faculty of Agriculture.

If the students fail in the qualifying examination, he / she is not permitted to register for further research credits.

12. THESIS RESEARCH

12.1. Selection of Topic

The thesis research for the Ph.D. degree should be of the nature of a definite contribution to the subject and the results should be of sufficient importance to merit publication. The findings should have some practical utility or should lead to theoretical contribution. The thesis shall be on a topic falling within the field of the major specialization and shall be the result of the student's own work. A certificate to this effect duly endorsed by the major advisor shall accompany the thesis.

12.2. Research Proposal

The research scholars shall present their broad area of research and submit a proposal to the Research Advisory Committee at the end of the first semester. The research proposal has to be presented by the student in a meeting organized by the Head of the department to get the opinion / suggestion of the scientists of the department for improving it. Three copies of the research proposal in the prescribed format should be sent to the Director (CARE) through the Head of the Department for approval

The distribution of research credit will be as follows

Semester	Credit Hours
I Semester	0+1

II Semester	0+2
III Semester	0+12
IV Semester	0+12
V Semester	0+9
VI Semester	0+9
Total	0+45

The total research credits for PT and EXT candidates should be distributed in all the eight semesters as advised by RAC.

12.3. Evaluation of Thesis Research

After assigning the research problem, for each semester, the student has to submit a detailed programme of work to be carried out by him/her during the semester in the prescribed proforma. After scrutiny and approval, a copy of the programme has to be given to the student for carrying out the work during the semester.

12.3.1.Attendance register must be maintained in the Department by HOD for all the students to monitor whether the student has 80% of attendance in research.

12.3.2.The student has to submit his/her research observation note book to the research supervisor whowill scrutinize the progress and sign the note book with remarks as frequently as possible. This note book will form the basis for evaluation of research progress.

12.3.3.After completion of 80% attendance for research and on or before the last day of the semester, the research Scholars, both full time and part time, shall submit Progress Reports in the prescribed format (Annexure-3) duly endorsed by the Research Advisory Committee to the Director, CARE until they submit their synopsis.

12.3.4 Failure to submit the progress reports shall entail automatic cancellation of registration.

12.3.5 The minutes of the meeting of the Research Advisory Committee along with enclosures will be sent to the Director, CARE.

12.3.6 The review meetings of the RAC may also be conducted through video conferencing or internet chat if the candidate or the Research Supervisor is in a foreign country.

12.3.7 Candidates who are recipients of fellowships such as JRF/SRF directly from any of the funding agencies/ shall send the progress reports and the utilization certificates in the format prescribed by the respective funding agency through proper channel.

12.3.8.The procedure of evaluating research credits under different situations are explained hereunder.

SITUATION – I

The student, has completed the research credits as per the approved programme and awarded SATISFACTORY by the RAC. Under the said situation the student can be permitted to register for fresh research credits in the subsequent semester. If the student is awarded UNSATISFACTORY, he/she has to re-register the same block of research credits in the subsequent semester.

SITUATION – II

The student who has not secured the minimum attendance of 80 percent shall be awarded grade E. The student has to re-register the same block of research credits for

which 'E' grade was awarded earlier in the following semester with prior permission. Until the completion of reregistered credits, the student should not be allowed to register for fresh (first time) research credits.

SITUATION – III

The student could not complete the research as per the approved programme of work for reasons beyond his/her control such as,

a) Failure of crop
b) Non-incidence of pests or disease or lack of such necessary experimental conditions.
c) Non-availability of treatment materials like planting materials chemicals, etc.
d) Any other impeding / unfavourable situation for satisfying the advisory committee.

Under the said situations grade EE should be awarded.

In the mark list, it should be mentioned that E grade or EE grade was awarded due to 'lack of attendance' or 'want for favourable experimental conditions'.

SITUATION – IV

When the student failed to complete the work even in the 'second time' registration, the student will be awarded UNSATISFACTORY and in the mark list the 'second time' should be mentioned.

For the registration of research credits for the third time, permission has to be obtained from the Dean based on the recommendation of the RAC, and HOD. Permission for registration for the fourth time shall be given only by University based on the recommendation of the RAC, HOD and Dean, Faculty of Agriculture.

13. SUBMISSION OF THESIS

The research credits registered in the last semester should be evaluated only at the time of the submission of thesis, by the RAC. Students can submit the thesis at the end of the final semester. If a student has completed the thesis before the closure of the final semester, the research supervisor can convene the RAC meeting and take decision on the submission of the thesis, provided the student satisfies 80 per cent attendance requirement. The candidate shall be allowed to submit his/her thesis after the completion of stipulated period. A grace period of 30 days may be allowed to submit the thesis after the prescribed duration. If the thesis is not submitted even after the grace period, the student shall pay the tuition fee for the year.

If a student is not able to submit the thesis within the grace period, the student has to re-register for the credits in the forthcoming semester. The student who re-registers the credits after availing of the grace period will not be permitted to avail of grace period for the second time. The Head of the Departments can sanction the grace period based on the recommendation of advisory committee and a copy of the permission letter along with the receipt for payment of fine should accompany the thesis while submission

Five copies of the thesis (in the approved format) shall be submitted together with the submission fee not later than three months after the submission of the synopsis. No dues certificates from the Department and Central Libraries, Hostel, Stores, etc.

must be submitted with the thesis copies. The Research Supervisor shall forward the thesis copies with the enclosures to the Director, CARE through the HOD and the Dean. A soft copy of the thesis in PDF fromat as prescribed by Shodhganga, shall also be submitted.

The Ph.D scholars have to publish a minimum of two research papers in Scopus / Web of Science indexed journal. The synopsis will be accepted for processing only after showing evidences for publications of 2 such articles.

The soft copy of the thesis shall be checked for plagiarism using Turnitin software. Beyond the percentage of reproduction prescribed by UGC will not be accepted for avaluation.

13.1 Pre-submission Presentation

1. The pre-submission presentation of the thesis is a requirement to enrich the scholar and to fine tune his/her research presentation
2. This presentation shall be conducted before the submission of the synopsis in the presence of the RAC, Supervisor/Co-Supervisor, Faculty members, Research Scholars, M.Phil., and /or P.G. Students.
3. The scholar is expected to present the first draft of the research work or explain the findings/problems faced.
4. The gathering may suggest ideas/references to be consulted/suggestions to improve the work and so on.
5. A report on this event along with an attendance sheet shall be forwarded by the Research Supervisor with the endorsement of the RAC and HOD to the Director, CARE.

13.2 Submission of Synopsis

1. The submission of synopsis may be permitted 3 months before the completion of required duration on successful completion of course work
2. The Research Scholar shall submit 3 copies of the synopsis approved by the Research Advisory Committee along with a soft copy to the Director, CARE through the Research Supervisor, the HOD and Dean of the respective Faculty. Guidelines for the preparation of the synopsis are appended in Annexure -4
3. Name of the candidate and name of the supervisor shall not be mentioned anywhere in the synopsis; enrolment number of the candidate alone shall be given. A model cover page for a synopsis is given in Annexure – 5

13.3 Guidelines for Preparation of Thesis

1. The thesis shall not exceed 250 pages excluding the Bibilography, Appendices, etc. If it exceeds the specified number of pages, the Research Supervisor should write to University with the reasons and get prior approval from the University. The candidate shall pay a penalty for the excess number of pages as decided by the Deans Committee. The thesis should be in A4 size. The specification for the preparation of the thesis are given in Annexure-7. A model cover page for a thesis is given in Annexure -8.
2. The thesis shall be typed on both sides of the page in order to save paper and postage

3. The thesis shall contain a Certificate from the guide (Annexure-9) specifying that the thesis submitted is a record of research work done by the candidate during the period of study under him/her and that the thesis has not previously formed the basis for the award of any Degree, Diploma, Associateship, Fellowship or similar title. A statement from the guide indicating the extent to which the thesis represents independent work on the part of the candidate should also be made.
4. The thesis shall also contain a Declaration by the candidate (Annexure -10) that the work reported in the thesis has been carried out by the candidate himself/herself and that the material from other sources, if any, is duly acknowledged and no part of the thesis is plagiarized.

14. VALUATION OF THE THESIS Panel Of Examiners

The thesis submitted in partial fulfillment of the Ph.D. degree shall be evaluated by two external experts one from within the country and the other from outside the country appointed by the Vice-Chancellor on the recommendation of the research supervisor of the RAC, HOD and Dean. They shall be chosen from a panel of at least five names of specialists separately from within the country and outside the country in the particular field, suggested by the research supervisor. The external experts shall send their evaluation reports of the thesis directly to the Director, CARE along with the copy of the evaluated thesis. The Director, CARE on receipt of the reports from the two examiners will send them to the concerned guide who is the convener of viva-voce board. The guide will send the consolidated report with his remarks to the Director, CARE through the Head of the Department. On the satisfactory reports of the evaluation, viva-voce examination will be arranged.

After a student's thesis for Ph.D. degree is evaluated as indicated above, the thesis shall be finally accepted for the award only after the student satisfactorily completes a final viva-voce examination. The Viva-Voce board comprises the student's RAC with the addition of the external examiner who valued the thesis, and the HOD. If the HOD happens to be the research supervisor, the Dean, Faculty of Agriculture will nominate a senior member of the staff of the concerned Department as a member. In case of external candidates, the co-supervisor will also serve as a member of the viva-voce board. The candidate is expected to defend the thesis at the viva-voce examination. The degree shall be awarded on the unanimous recommendation of the examining committeeas satisfactory with regard to the thesis and the performance of the student in the final oral examination. The recommendation of the committee shall be forwarded to the Director, CARE by the research supervisor through HOD and Dean which shall be signed by all members of the committee and the external examiner. A candidate who is not successful (unsatisfactory) at the viva –voce examination will be permitted to undergo the viva voce examination again within a period of three months.

14.2. Revision and Resubmission of Thesis

i. If an examiner recommends change / further work, the thesis will be referred to the same examiner after compliance for his opinion. In case of rejection by any one of the examiners, the thesis will be sent to another examiner and his / her recommendation will be final.

ii. If the thesis is recommended to be revised by one or both examiners, the points of revision will be indicated clearly in the report. The necessary correction should be carried out, and the revised version should be sent to the concerned examiner(s). If the examiner(s) is / are still not satisfied with the revised version, the thesis will be rejected. If the thesis is accepted by the examiners (Evaluation), Viva–Voce examination will be conducted by the viva-voce board.

14.3. Re-registration and Submission of Thesis

The minimum of 80% attendance requirement for submitting the thesis after re-registration need not be insisted for those students who have fulfilled the minimum academic and residential requirement of 3 or 4 years.

14.4. Extension of Time

1. Research scholars who do not submit the thesis within the stipulated period as per full-time/part-time/external mode should apply for extension of time three months before the completion of 3 or 4 years. Extension of time and the fees to be paid will be considered by the Deans Committee, if the extension is duly recommended by the RAC, Head of the Department, and the Dean of the Faculty, such candidates will be eligible for extension of time for a maximum period of two years.
2. The scholar will have to enroll as fresh candidates if he/she fails to submit the thesis within the maximum extension period of three years when granted.
3. If a scholar requires a few more months after the expiry of the maximum extension period of two years for the submission of the thesis as per the evaluation of the RAC, duly recommended by the Head of the Department and the Dean of the Faculty, as an exceptional case, the Deans committee may consider for re-registration to enable the scholar to submit the thesis. In any case, the time granted shall not exceed six/ twelve months.

14.5. Number of Chances

A candidate will not be permitted to submit a thesis for the degree on more than two occasions. However, it will be open to the syndicate, if the Board of Examiners so recommend, to permit the candidate to submit a thesis on a third occasion. Also, he/she will not be permitted to appear for the viva-voce examination on more than two occasions.

15. DISCONTINUANCE AND READMISSION

15.1. Students admitted to the PhD degree who discontinue their studies before completing the degree with written permission from the University may be re-admitted to the degree programme, provided that the student should have completed the course work before such discontinuance. However the period of such discontinuance should not exceed five years for Ph.D. Degree from date of admission.

15.2. After completion of course work and qualifying examination, a student is eligible to discontinue temporarily his research program only once within 5 years for PhD program. If the discontinuation period exceeds two semesters, the student has to forego the research credits already registered and register afresh with revised program. In the case of field experiments or laboratory experiments in which

continuity is essential for research and if a student temporarily discontinues in the middle without completing the experiments, then the entire experiment should be repeated even if the discontinuation period does not exceed two semesters.

15.3. A student joining the studies, after discontinuation should pay the fees of the existing semester.

16. PUBLICATION OF THE THESIS

The thesis, whether approved or not, should not be published in full or abridged form without the permission of the Syndicate, which may grant permission for the publication under such conditions as it may impose.

17. Each Department should maintain a list of theses produced so far with the abstract of the same.

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DEPARTMENT OF AGRICULTURAL EXTENSION
GEXT81 – PH.D (Agri.) Programme 2019-20

PROGRAMME OUTCOMES

At end of the programme, the learners will be able to

PO 1: Update their knowledge on the issues and advances related to agricultural extension and become successful extension workers on TOT projects.
PO 2: Acquire managerial skills and communication skills for organizations and to become excellent managers.
PO 3: Carryout independent field level research by applying various research techniques and following ethical procedures.
PO 4: Gain expertise on the advanced training technology and media management and to become successful trainers at various training institutes.
PO 5: Gain an overall insight on planning and developing agri based enterprises.

Ph.D. in Agricultural Extension (Revised Syllabus 2019-2020 onwards)

Semester wise Distribution of subjects

Subject code	Subject Title	Credit hour (Theory + Practical)
# Semester - I		
Major Courses*		
AEX 811	Advances in Agricultural Extension	2+1
AEX 812	Research Designs and Techniques In Social Science Research	2+1
AEX 813	Advances in Training Technology and Development	2+1
AEX 814	Trends in E-extension for Agricultural Development	2+1
Minor Courses		
AEX 815	Media Management	2+1
Supporting Courses		
COM 811	Advances in ComputingApplications	0+1
LIS 812	Advances in Agricultural Information Retrieval	0+1
AEX 801	Research	0+1
AEX 081	Seminar	0+1
	Total	16 Credits
# Semester - II		
Major Courses**		
AEX 821	Organizational Development	2+1
AEX 822	Advances in Instructional Technology	2+1
AEX 823	Advanced Management Techniques	2+1
AEX 824	Transfer of Technology in Agriculture	2+1
Minor Courses		
AEX 825	Entrepreneurship Development	2+1
AEX 826	MOOC	2+0
Supporting Courses		
STA 821	AdvancedStatistical Methods for Social Sciences	2+1
AEX 802	Research	0+2
AEX 082	Seminar	0+1
	Total	17 Credits
Semester – III		
AEX 803	Research	0+12
Semester – IV		
AEX 804	Research	0+12
Semester – V		
AEX 805	Research	0+9
Semester – VI		
AEX 806	Research	0+9
	Total for six semesters	75 Credits

* Any three

** Any two

All minor courses should be from other departments / discipline.

AEX 811 ADVANCES IN AGRICULTURAL EXTENSION (2+1)

LEARNING OBJECTIVES

To enable the students

- To analyse the different agricultural extension approaches.
- To understand various advances in agricultural extension.
- To visualize implications of WTO and to develop extension strategies.
- To understand extension reforms, farm field schools and gender main streaming.
- To understand Organization innovations in Extension.

Theory

Unit I Approaches of Agricultural Extension and Indigenous Knowledge system

Approaches of Agricultural Extension. Importance and relevance of indigenous knowledge system - identification and documentation of ITK - Integration of ITK system in to agricultural research and extension - Concept of Agricultural Knowledge and Information System(AKIS) - Training of Stakeholders of AKIS.

Unit II Cyber Extension and ICT

Cyber Extension - Concept of cyber extension - national and international cases of extension projects using ICT and their impact of agricultural extension – Alternative methods of financing agricultural extension – Scope, limitations and types of ICT tools – their experiences and cases – Electronic publishing in agriculture – Information KIOSK – ICT indicators and network readiness index.

Unit III Extension systems and Stake Holder's Analysis

Research - Extension -Farmer - Market linkage: Importance, Scope, Implications etc., Market - Led Extension – market intelligence - Farmer - Led Extension, Contract farming - Farm Field School, Farm School, Public - Private Partnership - Meaning, models, identification of various areas of partnership. Stakeholders analysis in extension.

Unit IV Gender Main streaming and Empowerment

Gender mainstreaming and empowerment – Meaning, definitions related to gender mainstreaming - importance of empowering women – Gender in Agriculture issues. Implications of WTO - AOA for extension services, re-orientation of extension services for agri-business and marketing activities, Government of India (GOI) - NGO collaboration to improve efficiency of extension.

Unit V Extension and contemporary issues:

Extension contemporary issues - Extension and issues related to rural poverty - Privatization of Extension - Intellectual Property Rights (IPRs) - Extension Reforms in India - Decentralized decision making - Bottom up planning - Participatory technology development - Farming System and Situation based Extension Delivery System - Extension delivery through Commodity Interest Groups - Strategic research and extension plan - Organization innovations in Extension - ATIC,ATMA,KVK, IVLP and Kisan Call Centres.

Practical

Analysis of ITK systems, cases and integration of ITK and formal research system, Analysis of cases on cyber extension and privatization of extension, Analysis of Agrl. Technology Management Agency (ATMA), Contract Farming System in India – Institutional Village Linkage Programme (IVLP), KrishiVigyan Kendra (KVK), Visit toPublic – Private – Farmer Partnerships.

Theory Lecture Schedule

1. A critical analysis of different approaches of agricultural extension in India.
2. Indigenous Technical Knowledge- importance and relevance of Indigenous Knowledge System

3. Identification and documentation of ITK-ITK documentation methods, ITK in Agricultural Development.
4. Integration of ITK into agricultural research and extension, Limitations of ITKs
5. Agricultural Knowledge and Information System(AKIS) – concept – Direct and indirect effects of agricultural innovation on lifestyle of farmers.
6. Training of Stakeholders of AKIS – Market – oriented and asset constrained AKIS
7. Cyber Extension – Concept, objectives - Cyber extension tools and information needs and access of farming community.
8. National and International cases of extension projects using ICT and their impact of Agricultural Extension.
9. ICT – Introduction – Types of ICT tools – Trends in Agricultural Information Management.
10. Alternative methods of Financing Agricultural Extension
11. Scope and limitations of ICT, their experiences and cases.
12. Electronic publishing in Agriculture.
13. Information Kiosk – Concept, ICT indicators - network readiness index.
14. Research - Extension -Farmer - Market linkage - Importance, Scope, Implications.
15. Market - Led Extension – Meaning and Scope – challenges and opportunities in Market led extension.
16. Market Intelligence – Meaning, Importance, market intelligence for agricultural commodities – market information services
17. Mid Semester Examination
18. Farmer - Led Extension.
19. Contract farming – concept, models, policy support – Advantages and challenges of Contract farming, NABARD initiatives in contract farming.
20. Farm Field School and Farm school – concept, meaning, principles and characteristics of FFS & FS.
21. Public - Private Partnership: Meaning, Models, Identification of various areas for partnership. Stakeholders analysis in Extension.
22. Gender mainstreaming and empowerment – Meaning, definitions related to gender mainstreaming
23. Importance of empowering women – gender issues in Agriculture – gender analysis – gender budgeting.
24. Implications of World Trade Organization – AOA for extension services, re-orientation of extension services for agri-business and marketing activities.
25. Government of India (GOI) -NGO collaboration to improve efficiency of extension.
26. Extension Contemporary issues – Extension and issues related to rural poverty.
27. Privatization of Extension
28. Intellectual Property Rights – Meaning , functions – merits and demerits.
29. Extension Reforms in India - Decentralized decision making, Bottom up planning.
30. Participatory Technology Development – meaning, definition, elements, rationale, characteristics, process and benefits of Participatory Technology Development.
31. Farming System and Situation based Extension Delivery System,
32. Extension delivery through Commodity Interest Groups
33. Strategic research and extension plan – meaning – scope – need in Agricultural development.
34. Organization innovations in Extension – ATIC,ATMA,KVK,IVLP and Kisan call centres.

Practical Schedule

1. Visit to villages to identify the ITK that prevails in their locality.
2. Visit to villages to identify the ITK that prevails in their locality.
3. Visit to villages for the documentation of the most successful ITKs

4. Visit to village to study about the successful cases on using ITKs.
5. Visit to a village to study about the progressiveness of farmers on the use of cyber extension in agriculture and to identify successful cases.
6. Visit to a village to study about the progressiveness of farmers on the use of cyber extension in agriculture and identify successful cases.
7. Visit to a village to study about the progressiveness of farmers on the use of cyber extension in agriculture and identify successful cases.
8. Visit to village to conduct a survey on privatization of extension.
9. Visit to village to conduct a survey on privatization of extension.
10. Visit to village to conduct a survey on privatization of extension.
11. Visit to a village to analyze the effectiveness of ATMA where it is functioning.
12. Visit to a village to analyze the success of IVLP.
13. Visit to a village to analyze the contract farming system.
14. Visit to an extension organization to study about its role in practicing bottom up planning.
15. Visit to an extension organization to study about Public-Private Partnerships.
16. Visit to an extension organization to study about Public-Private–Farmer Partnerships.
17. Visit to KVK to study about its role in Agricultural Extension.

OUTCOME OF THE COURSE

At the end of the course students will be able to

CO 1 :Understand various approaches in agricultural extension and Indigenous knowledge system.

CO 2 :Evaluate the role of ICT and cyber extension.

CO 3 :Critically analyse Extension systems

CO 4 :Appreciate the importance of Gender Main streaming and Empowerment

CO 5: Understand Organization innovations in Extension.

CO – PO MAPPING TABLE

COS	PO 1	PO 2	PO 3	PO 4	PO5
CO1	3	3	3		
CO2	3	3	3		2
CO3	3	3		3	
CO4	3				3
CO5	3	3			2

References

1. Chambers R, Pacy A and Thrupp L.A. 1989. Farmers First. New Delhi: Intermediate Technology Publications.
2. John, K.C., Sharma, D.K., Rajan C.S and Singh C.1997. Farmers Participation in Agricultural Research and Extension Systems. MANAGE, Hyderabad: Concept Publications.
3. Narasaiah, M.L. 2005. Agrl. Development and World Trade Organization. New Delhi: Discovery Publications.
4. Reddy, M.N, Samanta, R.K, Vikram Singh., Uma Rani, K, Kareem, M.A.,Jaya,G, Balasubramani N and Renuka Rani B. 2007. New Dimensions in Agrl.Extension. MANAGE, Hyderabad: Concept Publications.
5. Talwar, S.2007. WTO Intellectual Property Rights. New Delhi: Serial Publications.
6. Rathakrishnan, T. 2009. Advances and Challenges in Agrl. Extension and Rural Development. New Delhi: New India Publishing Agency.

E-Resources

1. http://www.manage.gov.in/pgdaem/Studymaterial.asp
2. https://www.wto.org/english/thewto_e/thewto_e.htm
3. http://www.fao.org/e-agriculture/blog/icts-and-agricultural-extension-services

AEX812 RESEARCH DESIGNS AND TECHNIQUES IN SOCIAL SCIENCE RESEARCH(2 +1)

LEARNING OBJECTIVES

To enable the students to learn about

- Levels of Measurement and Scaling Techniques
- Techniques of attitude scale construction.
- Projected and non-projected techniques
- Computer package analysis
- PRA tools in extension research.

Theory

Unit I Fundamentals of Research in Social Science

Research design- concept, definition, importance, types and Principles. Postulates and Levels of Measurement-functions and problems. Test construction-meaning, classification, characteristics and steps. Item writing – Meaning, types, Guidelines and Item analysis

Unit II Scale construction Techniques

Test and Scale definition – Types of test - Scaling Techniques- meaning, types, principles, steps and quality. Techniques of Attitude scale construction – Method of Paired comparison, Thurston's Equal appearing interval scale, Successive interval scale, Likert's method of Summated rating scale, Guttman scale, semantic differential scale and scale distance scale and Q-sort technique.

Unit III Reliability & Validity Measurement

Reliability and Validity of scales - meaning and types of reliability and factors influencing reliability, meaning and types of validity and factors influencing validity. Participatory research methods - Scalogram analysis, Content analysis, Case studies.

Unit IV Advances in Social Science Research

Projective techniques, Critical Incident techniques, Computer packages for analysis in Extension research. Knowledge test measurement, Participatory tools and techniques in behaviour research- E-Resources – E-data collection and evaluation. Impact analysis and information analysis.

Unit V Theory construction

Importance of Theory construction in social science – Theory - meaning, elements, ideal criteria, functions and types - Terminologies used in theory construction - Axiom, Postulate, Proposition, Theorem. Fact, Concept, Construct, Probability and Measurement - Axiomatic techniques, historical approaches and scientific approaches. Management research, media research.

Practical

Practice in constructing a scale and use of scale in various situations, Reliability and Validity of the scales developed, Application of Projective techniques, Content analysis, Case studies, Practicing Participatory tools and techniques. Hands - on experience on computer analysis and data collection instruments, Review of previous studies, Research proposal and research report.

Theory Lecture Schedule

1. Research design- concept, definition, importance, types and Principles.
2. Postulates and Levels of Measurement-functions and problems

3. Test construction-meaning, classification, characteristics and steps.
4. Item writing – Meaning, types, Guidelines and Item analysis
5. Item analysis – Difficulty index and discrimination index
6. Test and Scale definition – Types of test
7. Intelligence, aptitude and achievement test
8. Scaling Techniques- meaning, types, principles, steps and quality.
9. Techniques of Attitude scale construction – Method of Paired comparison, Thurstone's Equal appearing interval scale
10. Successive interval scale, Likert's method of Summated rating scale
11. Guttman scale, semantic differential scale
12. scale distance scale and Q-sort technique
13. Reliability - meaning and types of reliability and factors influencing reliability
14. validity - meaning and types of validity and factors influencing validity
15. Participatory research methods – need, features and advantages
16. Scalogram analysis, Content analysis, Case studies.
17. Mid-semester Examination.
18. Projective Techniques
19. Critical Incident Technique
20. Computer packages for analysis in Extension research
21. Developing knowledge test.
22. Knowledge test measurement
23. Participatory tools and techniques in behaviour research- Data collection and evaluation
24. E-Resources – e-books, journals and magazines
25. E-data collection and evaluation
26. Impact analysis and information analysis
27. Theory construction in social science – need and significance
28. Theory- meaning, elements, ideal criteria,
29. Theory - functions and types.
30. Terminologies used in theory construction: Axiom, Postulate, Proposition, Theorem.
31. Terminologies used in theory construction: Fact, Concept, Construct, Probability
32. Axiomatic techniques, historical approaches and scientific approaches.
33. Management research and Development research
34. Media research – concept, print and electronic media.

Practical Schedule

1. Writing statements for attitude scale construction
2. Practice in using Paired comparison Technique
3. Practice in using equal appearing interval scale
4. Practice in using Successive interval scale
5. Practice in using Summated rating scale
6. Item writing for knowledge test
7. Working out difficulty and discrimination index for knowledge items
8. Measurement of Reliability using test - retest method
9. Measurement of Validity – content, concurrent and constructive
10. Projective Techniques
11. Content analysis of agricultural website
12. Content analysis of farm magazine
13. Case studies of research organization
14. Practicing Participatory tools and techniques
15. Hands-on experience on computer analysis and data collection instruments
16. Preparing research proposal

17. Writing a research report

OUTCOME OF THE COURSE

At the end of the course students will be able to

CO1 :Understand fundamentals of social science research.
CO 2: Develop and construct attitudes scales.
CO 3 :Test reliability and validity of the measurement scales.
CO 4 :Understand advances in social science research.
CO 5: Appreciate the importance of theory construction

CO – PO MAPPING TABLE

CO	PO 1	PO 2	PO 3	PO 4	PO5
CO1	3		3		
CO2		2	3		
CO3		2	3		
CO4			3	3	
CO5			3	2	2

References

1. Mulay, Sumathi and Sabarathinam, V.E. 1980. Research Methods in Extension Education. New Delhi: Mansayan Publications
2. Burns, R.B.2000. Introduction to Research Methods. New Delhi: Sage Publications.
3. Kothari, C.R. 2000. Research Methodology Methods& Techniques, 2nd Edition, New Delhi: WishvaPrakasamPublications
4. Kerlinger, N. Fred.2002.Foundations of Behavioral Research. New Delhi: Surjeet Publications.
5. Sandhu, A.M. and Singh, A. 2002. Research Methodology in Social Science. Calcutta: Himalaya Publications House.
6. Singh, AK. 2015. Tests, measurements and research methods in behavioural sciences. New Delhi: BharatiBhawan Publications.
7. Ray, G.L. and Mandal, .S. 2016. Research Methods in Social Sciences and Extension Education. Calcatta: Naya Prakash Publications.

E-Resources

1. https://bbamantra.com/research-methodology.
2. www.scribed.com/doc/185378498/Research-Methodology-Full-Notes.
3. www.academia.edu/3683300/Research-Methodology-Full-Notes.

AEX 813- ADVANCES IN TRAINING TECHNOLOGY AND DEVELOPMENT (2+1)

LEARNING OBJECTIVES

To enable the students to

- Understand concepts of training, typology, polices and issues in training
- To plan and design training programmes
- To use different advanced participatory training methods
- Understand training monitoring and evaluation

Theory

Unit I BASICS OF TRAINING

Training – basic and modern Concepts and definitions-Training typology-Importance of training in extension Training and Development – Components and sub – components of training.- Models of training – Systems approach in training.

Unit IIPOLICIES AND ISSUES IN TRAINING

Extension training policy – National and state extension policy – elements- Role of Ministry of Agriculture (MOA) / Directorate of Extension in extension training at national level –Role of state secretaries, Directors of agriculture, state training officers and district level training officers – Extension training institutions MANAGE , Extension Education Institutes (EEI). Role of trainers – Factors affecting training effectiveness – Group dynamics for motivation and empowerment.- Psychological instruments as training tools – TAT, Inventories, cases

Unit IIIPLANNING AND DESINING IN TRAINING

Curriculum development - Importance – Components – Extension training plans – Extension Training Needs assessment – Formulation of training objectives –Training Design — Skill mix – Designing training modules –Designing training sessions

Unit IV TRAINING TECHNIQUES

Recent Training techniques for understanding and team building, Lecture, demonstration – case method, simulation, Role play, brainstorming, Group discussion, counseling – Syndicate, T group, In-basket exercise, fish-bowl exercise – Sensitivity training, experiential learning

Unit V TRAINING MONITORING AND EVALUATION

Training monitoring–Training evaluation – concept, meaning, types, levels, principles of evaluation, techniques of evaluation impact, assessment.

Practical

Techniques of participatory training, need assessment, Formulation of Course objectives, Designing a training programme, practicing lecture , demonstration, case method, simulation exercise, role play , brain storming. Group discussion counseling, syndicate, T group, in – basket exercise,sensitivity training , fish-bowl exercise, practicing experiential learning sessions, Evaluation of a training programme.

Theory Lecture Schedule

1. Training basic and modern concepts and definitions.
2. Importance of training in extension
3. Training and development.
4. Training typology.
5. Components and sub-components of training.
6. Models of training
7. Systems approach in training
8. Extension training policy – National and state extension policy elements.
9. Role of Ministry of Agriculture (MOA) / Directorate of Extension in extension training at national level.
10. Role of state secretaries, Directors of agriculture, state training officers and district level training officers.
11. Extension training institutions:MANAGE , Extension Education Institutes (EEI).
12. Role of trainers – Factors affecting training effectiveness
13. Group dynamics for motivation and empowerment.
14. Psychological instruments as training tools – TAT, Inventories, cases

15. Curriculum development - Importance – Components.
16. Extension training plans..
17. Mid-semester Examination
18. Extension Training Needs assessment
19. Formulation of training objectives.
20. Training Design.
21. Designing training modules.
22. Designing training sessions.
23. Recent Training techniques for understanding and team building: Lecture, demonstration
24. Case method, simulation
25. Role play, brainstorming
26. Group discussion, counseling
27. Syndicate, T group
28. In –basket exercise, fish-bowl exercise
29. Sensitivity training , experiential learning
30. Training monitoring– training evaluation – concepts.
31. Types and levels of evaluation
32. Principles of evaluation
33. Techniques of evaluation
34. Impact assessment.

Practical Schedule

1. Techniques of participatory training need assessment.
2. Formulation of Course objective
3. Designing a trainingprogramme.
4. Practicing lecture
5. Practicing demonstration
6. Practicing case method
7. Practicing simulation exercise.
8. Practicing role play
9. Practicing brain storming.
10. Practicing group discussion and counseling.
11. Practicing syndicate
12. Practicing T group
13. Practicing in-basket exercise
14. Practicing sensitivity training
15. Practicing fish-bowl exercise
16. Practicing experiential learning sessions.
17. Evaluation of a training programme.

COURSE OUTCOME

At the end of the course, students will able to

CO 1 :Analyse concepts, types, policies and issues in training
CO 2 :Evaluate the role of national level training institutes
CO 3 :Plan and design training programmes
CO 4 :Use advanced training methods
CO 5 :Appreciate the importance of monitoring and Evaluation

CO – PO MAPPING TABLE

CO	PO 1	PO 2	PO 3	PO 4	PO5
CO1	3	3		3	
CO2	3	3		3	
CO3	3	3	3	3	3
CO4	3	3	3	3	3
CO5	3	3		3	3

References

1. Mishra, D.C. 1990. New Directions in extension training: A conceptual frame work. The 'Blue Book' on extension Training. New Delhi: Directorate of Extension, Ministry of Agriculture.
2. Lynton, R.P. and Pareek, U. 2000. Training for Development. New Delhi: Vistaar Publications.
3. Singh, A.K., Lakhan Singh and R.Roy Burman. 2006. Dimensions of Agrl. Extension. Meerut: Aman Publishing House.
4. Gupta, C.B., 2007. Human Resource Mangagement. New Delhi: Sultan Chand & Sons.
5. Jalihal, K.A and V.Veerabhadraiah. 2007. Fundamentals of Extension Education and management in Extension.New Delhi: concept Publishing Company.

E-Resources

1. www.hrmonline.com
2. www.managementstudyguide.com
3. https://onlinecoursesnptel.ac.in/noc18
4. www.onelibrary.wiley.com
5. www.guideslibrary.comell.edu

AEX 814 Trends in E-extension for Agricultural Development (2+1)

LEARNING OBJECTIVES

To enable the students to learn about

- Concepts of Information and communication technologies
- e-Agriculture Initiatives and dissemination strategies
- Use of ICT tools in Agricultural Extension.
- Role of social media in transfer of farm information

Theory

UNIT I Importance of Cyber Extension on Agricultural Information Dissemination

Cyber Extension or e- extension – Concept of cyber extension its role in agriculture and rural development - ICTs –definition – tools and application in extension education – Reorganizing the extension efforts using ICTs – advantages – limitations and opportunities.

UNIT II e-Agriculture Initiatives and Extension Reforms

ICT programmes/ projects in agriculture – National and international cases of extension projects using ICT and their impact of agricultural extension – Different approaches (models) to ICTs – ICT use in field of extension – Expert systems on selected crops and enterprises – Self learning CDs on package of practices, diseases and pest management – Agricultural websites and portals related crop production and marketing etc.Digital Libraries and repositories for Agricultural Knowledge Management.

UNIT III e-Agriculture Dissemination Strategies

Community Radio – Web, Tele, and Video conferencing – Computer Aided Extension – Knowledge management – Information kiosks – Multimedia – Online – Offline Extension Tools-Mobile technologies, e-learning concepts.

UNIT IV ICT Hardware and Software Tools

ICT tools- print and electronic media, e-mail, Internet, use of multimedia, use of mobile phony, computer-assisted instructions, touch screens, micro-computers, web technologies and information kiosks.

Networking system of information and challenges in the use of ICT. E-learning, information resources, sharing and networking. Types of net work – PAN, LAN, WAN, Internet, AGRINET, AKIS, Indian National Agricultural Research database

UNIT V Social Media In Opening Access To E- Agriculture

ICT Extension approaches – prerequisites, information and science needs of farming community – Need integration – Human resource information – Intermediaries – Basic e-extension training issues – ICT enabled extension pluralism – Emerging issues in ICT. Problems and prospects of ICTs in farm based development, Digitisation, Simulation models, Utilization of Internet for promoting advanced agricultural 29 echnologies; communication with marginal, small and big farmers. Social Media – Platform and Tools for Sharing Agricultural Information

Practical

Visit to various educational institutes and organizations to get first-hand knowledge on the application of numerous modern ICT tools in the fields of education, teaching and extension.

Lecture Schedule

1. Cyber Extension or e – extension , Concept of cyber extension and its role in agriculture and rural development
2. ICTs – definition – tools and application in extension education
3. Reorganizing the extension efforts using ICTs – advantages – limitations and opportunities
4. ICT programmes / projects in agriculture
5. National and international cases of extension projects using ICT and their impact of agricultural extension
6. Advanced approaches (models) to ICTs
7. ICT use in field of agricultural extension
8. Expert systems on selected crops and enterprises
9. Self learning CDs on package of practices, diseases and pest management
10. Agricultural websites and portals related crop production and marketing etc.
11. Digital Libraries and repositories for Agricultural Knowledge Management
12. Community Radio, Web, Tele, and Video conferencing
13. Advances in computer Aided Extension
14. Knowledge management, Information kiosks
15. Multimedia, Online and Offline Extension Tools,
16. Mobile technologies, e-learning concepts.
17. Mid-semester examination
18. ICT tools
19. Print and electronic media
20. e-mail, Internet, use of multimedia, use of mobile phony

21. Computer assisted instructions, touch screens, microcomputers, web technologies and information kiosks.
22. Networking system of information and challenges in the use of ICT.
23. e-learning, information resources,
24. Sharing and networking. Types of net work – PAN, LAN, WAN,
25. Internet, AGRINET, AKIS, Indian National Agricultural Research database
26. ICT Extension approaches – prerequisites, information and science needs of farming community
27. Need integration – Human resource information – Intermediaries
28. Basic e-extension training issues
29. ICT enabled extension pluralism – Emerging issues in ICT
30. Problems and prospects of ICTs in farm based development
31. Digitization, Simulation models
32. Utilization of Internet for promoting advanced agricultural technologies
33. E-communication with marginal, small and big farmers
34. Social Media – Platform and Tools for Sharing Agricultural Information

Practical Schedule

1. Visit to the National Informatics Centre, Cuddalore
2. Visit to a Community Radio Station, Pondicherry
3. Visit to MSSRF to study about ICT usage
4. Visit to the Educational Multimedia Research *Centre* (EMRC), Anna University, Chennai
5. Visit to Meteorological Centre to study about Advisory to Farmers
6. Visit to TneGA – Tamilnadu e-Governance Agency
7. Visit to a Newspaper Agency
8. Visit to Doordarshan Kendra
9. Visit to All India Radio.
10. Visit to a Private TV Channel.
11. Visit to Central Institute of Tool Design Extension centre.
12. Visit to Centre for Educational Media & Technology, National Institute of Technical Teachers' Training and Research., Taramani.
13. Visit to Tidal Park.
14. Visit to the Directorate of Agriculture to study about use of ICT.
15. Visit to National Institute of Electronics and Information Technology,Centre, Chennai.
16. Preparing a webpage
17. Preparing a blog

OUTCOME OF THE COURSE

At the end of the course, the students will be able to

CO1: Understand the importance of Cyber Extension on Agricultural Information Dissemination

CO 2: Assess e-Agriculture Initiatives and Extension Reforms

CO 3: Evaluate e-Agriculture Dissemination Strategies

CO 4: Use ICT Hardware and Software Tools

CO 5: Appreciate the role of Social Media in transfer of agricultural information

CO- PO MAPPING TABLE

CO	PO 1	PO 2	PO 3	PO 4	PO5
CO1	3	3			
CO2	3	3		2	
CO3	3	3	3	3	
CO4	3		3	3	3
CO5	3	3	3	3	3

References

1. Bhatnagar S.C., (2004) "E-Government : From Vision to Implementation – A Practical Guide with Case Studies", SAGE Publications Pvt. Ltd., New Delhi.
2. Bhatnagar, S. &Schware R. (2000). Information and Communication Technology in Development: Cases from India. New Delhi, India: Sage Publications.
3. Punjabi, N.K and L.L.Somani. (2012). Cyber Extension for Rural Development, Udaipur: Agrotech Publishing Academy
4. Saravanan, R., (2010). ICTs for Agricultural Extension: Global Experiments, Innovations and Experiences, New India Publishing Agency (NIPA), New Delhi.
5. Saravanan, R., and SuchiradiptaBhattacharjee, (2014). Mobile Phone Applications for Agricultural Extension in India, In: Saravanan, R (Ed.).Mobile Phones for Agricultural Extension: Worldwide mAgri Innovations and Promise for Future, New India Publishing Agency, New Delhi.

E-Resources

1. https://www.thejakartapost.com/news/2013/06/04/cyber-extension - a- new-hope-agriculture – and-rural-development.html
2. http://www.manage.gov.in/publications/edigest/1999-1.pdf
3. http://www.caluniv.ac.in/global-mdia
4. https://www.researchgate.net/publication/280039298_Ahuja_Vivek_Cyber_extension_A_convergence_of_ICT_and_agricultural_development_Global_Media_Journal-Indian_Edition_22_2011_1-8
5. http://www.fao.org/e-agriculture/blog/icts-and-agricultural-extension-services

AEX 815 MEDIA MANAGEMENT (2+1)

LEARNING OBJECTIVES

To enable the students to

- learn about significance of media management and mass communication
- learn about the use of various media sources for agricultural development
- familiarize with farm journalism and farm video production
- understand media strategies for various agricultural development programmes

Theory

Unit I Media Management & Mass Communication

Media Management – Introduction, Definition, Principles and Significance of Management. Media ownership patterns in India – Proprietorship, Partnership, Private Ltd, Public companies, Trusts, Co-operatives, Religious Institutions (Societies) & Franchisees (Chains). Marketing function – Product, Price, Placement & Promotions. Mass communication – Meaning, Concept, Definition and Theories of Mass Communication. The mass media – History, Functions, Uses and Theories of media.

Unit II Journalism& Print Media

Journalism – Meaning, Definition, Scope, Functions and different types of journalism. Journalism as communication tool. Farm Journalism – Meaning and Developments in farm journalism in India. Different problems with farm journalism. Print Media – History, the role of the press, Types of News, Electronics of news and Sources of news, the making of newspaper & magazines, press codes and ethics,. News story – Principles of writing, structure a news story, procedure in writing the news story and the elements of style. Success stories & feature articles – writing for success & feature articles, Types of feature articles.

Unit III Radio and Television Production

Information materials – Types of information materials and user. Techniques in book publishing. Editing – Principles, Tools & Techniques and Art of proof reading – Techniques, Measuring readability of writing. Electronic media role and importance of radio –History, Radio role in TOT, writing and presentation techniques, Different programmes of farm broadcast, developing content for farm broadcast, Role of FM radio in agriculture, Ethics of broadcasting, Broadcasting policy and code. Community Radio – Concept, Meaning, role in TOT, Cases of Community radio. Television – History – Role in TOT, Fundamentals of television production

Unit IV Script writing

Techniques of script writing for TV, Visual thinking, language & Style, Farm telecast programmes, cable and satellite TV and their impact, Ethics of telecasting, policy and code. Video Production Technology – Potential and its utilization, Typology of farm video production, Types of video Production and equipment used in the production, Procedure or Technique of video production. Cassette Technology – Role in TOT, Techniques of production of cassettes for the farming community.

Unit V Traditional Media and Modern Communication Media

Traditional Media – Role of folk media in TOT and integration with electronic media. Advances in communication technology – Management of Agricultural Information System (MAIS). Use of computers in agriculture – Application of IT in agriculture. Use of modern communication medium- Electronic video, Tele text, Tele conference, Computer assisted instruction, Video conferencing, - Features, Advantages, Limitations and Risk factory involved in new media. Designing and developing of communication and media strategy for developmental programmes. Online journalism scope & importance.

Practical

Preparation of script of news papers. Practicing skill on success stories. Visit to community radio to study its role in agricultural development. Practicing skill on farm journalism. Practicing skill on editing for news papers. Practicing skill on proof reading for farm news for news papers. Visit to news paper office to study the news editing & proof reading the news for news papers. Preparation of story board for farm video production. Script writing for radio. Script writing for T.V. (Television).Visit to media management organization for studying the procedures and process in managing the media. Visit to All India Radio to study the role in transfer of agricultural technologies. Visit to FM Radio station to study the role in agriculture. Visit to Television station to study the various farm telecast programme related to agriculture and allied fields. Practicing skill on video conferencing. Developing communication strategies for various agricultural development programme. Developing media strategies for various agricultural development programme.

Lecture Schedule

1. Media Management – Introduction, Definition.
2. Principles of media management and Significance of management.

3. Media Ownership patterns in India – Proprietorship, Partnership, Private Ltd, Public companies
4. Trusts, Co-operatives, Religious Institutions (Societies) & Franchisees (Chains).
5. Marketing Function – Product, Price, Placement& Promotions.
6. Mass Communication – Meaning, Concept, Definition and Theories of Mass Communication.
7. The mass media – History and functions,
8. Uses of mass media and Theories of mass media.
9. Journalism – Meaning, Definition, Scope, Functions and Different types of Journalism. Journalism as communication tool.
10. Farm Journalism – Meaning and developments in farm journalism in India. Different problems with farm journalism.
11. Print Media – History, the role of the press, Types of News, Electronics of news and sources of news.
12. The making of newspaper & magazines, press codes and ethics.
13. News story – Principles of writing, Structure a news story, Procedure in writing the news story and the elements of style.
14. Success stories & Feature articles – Writing for success & feature articles.
15. Types of feature articles. Information materials – Types of information materials and user. Techniques in book publishing.
16. Editing – Principles, Tools & Techniques and Art of proof reading – Techniques, Measuring readability of writing.
17. Mid Semester Examination
18. Electronic media role and importance of radio –History, Radio role in TOT, writing and presentation techniques.
19. Different programmes of farm broadcast, developing content for farm broadcast.
20. Role of FM Radio in agriculture, Ethics of broadcasting, Broadcasting policy and code.
21. Community Radio – Concept, Meaning, Role in TOT, Cases of community radio.
22. Television – History – Role in TOT, Fundamentals of television production techniques of script writing for TV.
23. Visual thinking, language & Style, Farm telecast programmes.
24. Cable and satellite TV and their impact, Ethics of telecasting, policy and code.
25. Video production technology – Potential and its utilization, Typology of farm video production.
26. Types of video production and equipment used in the production, Procedure or Technique of video production.
27. Cassette Technology – Role in TOT, Techniques of production of cassettes for the farming community.
28. Traditional Media – Role of folk media in TOT and integration with electronic media.
29. Advances in communication technology – Management of Agricultural Information System (MAIS).
30. Use of computers in agriculture – Application of IT in agriculture. Use of modern communication medium- Electronic video, Tele text, Tele conference.
31. Computer assisted instruction, Video conferencing, - Features.
32. Advantages, limitations and risk factors involved in new media.
33. Designing and developing of communication and media strategy for developmental programmes.
34. Online journalism scope & importance.

Practical Schedule

1. Preparation of script for news papers.

2. Practicing skill on success stories.
3. Visit to community radio to study its role in agricultural development
4. Practicing skill on farm journalism
5. Practicing skill on editing for news papers
6. Practicing skill on proof reading of farm news for newspapers
7. Visit to news paper office to study the news editing & proof reading the news for newspapers.
8. Preparation of story board for farm video production.
9. Script writing for radio.
10. Script writing for T.V. (Television)
11. Visit to media management agencies for studying the procedures and process in managing the media.
12. Visit to All India Radio to study the role in transfer of agricultural technologies.
13. Visit to FM Radio station to study the role in agriculture.
14. Visit to Television station to study the various farm telecast programme related to agriculture and allied fields.
15. To learn about skill on video conferencing.
16. Developing communication strategies for various agricultural development programmes
17. Developing media strategies for various agricultural development programme.

COURSE OUTCOME

At the end of the course, the students will be able to

CO1: Understand the significance of media management and mass communication
CO2: Appreciate the use of various media sources for agricultural development
CO3: To evaluate the most effective media platforms for agricultural development
CO4: Develop writing skills for various media
CO5: Understand the importance of traditional media and modern media

CO-PO MAPPING TABLE

CO	PO 1	PO 2	PO 3	PO 4	PO5
CO1	3	3		3	
CO2	3	3	3	3	2
CO3	3	3	3	3	2
CO4	3	3	3	3	
CO5	3	3	2	3	

References3

1. Alan Albarran and Michael O With. 2005. Handbook of Media Management and Economics, Routledge Publisher.
2. Bransfor, John, Brown, Ann and cocking Rodney. 2010. How people learn – Brain Mind Experience, National Academy Press, Washington, DC.
3. Rust, Roland.T.2010.Advertising Media Models, [8th Edition], Lexington, MA: Lexington Bolas.
4. Mili Mohan.2011. Top Ten Advertising Films in India. Open University Press, New Delhi.
5. Mohammadian, Mohmood. 2012. Advertisement Management,[6th Edition] Horofiye Publishing. From Strategies Planning

E-Resources

1. www.routledgehandbookds.com
2. www.featuredcustomers.com

3. www.chilibreeze.com
4. www.tamades.com,
5. www.aidem.in

AEX 821ORGANIZATIONAL DEVELOPMENT (2+1)

LEARNING OBJECTIVES

To enable the students to

- Study about concepts, types and characteristics of organizations
- Understand organizational structure and its importance
- Learn about organizational behavior, organizational communication and organizational development
- To gain knowledge and skills on different concepts and techniques of management in extension organizations.

Theory

Unit I Introduction to Organizations

Organizations – concept characteristics and importance of organizations – types of organizations – formal and informal organizations – Advantages and Disadvantages Theories of organizations – classical organization theory, neo classical organization theory and modern organization theory.

Unit II Organizational Structure

Organizational structure– Types of organizational structures, factors affecting organizational structure, steps in designing organizational structure, role of organizational structure, features of good organizational structure; Organizational charts and manuals.

Unit III Organizational Communication and Leadership

Organizational communication – concept, process, types, networks, barriers to communication, tips for making effective communication. Leadership-concept, characteristics, functions, theories of leadership and leadership styles. Motivation – concept, types, theories of motivation.

Unit IV Organizational Behavior

Organizational Behavior – context and concept, Dynamics of organizational behavior – Inter-group behavior – importance of groups and teams – Organizational culture and performance. Organizational Development – Definition, types of Organizational Development activities- Factors influencing organizational effectiveness, creativity, motivation and organizational development .

Unit V Management in an Organization

Extension management – Meaning, concept, importance, Principles of Management and Functions of Management. Levels of management, Qualities and skills of the managers. Planning – Concept, Nature, Importance, Types, Making planning effective. Decision Making – Concept, Types of decisions, Styles and techniques of decision making. Steps in Decision Making process, Guidelines for making effective decisions. Span of Management, Departmentalization, Authority and responsibility, Delegation and decentralization, line and staff relations.

Practical

Analysis of organization in terms of process, motivation and leadership. Simulation exercises on problem solving. Study of organizational climate in different organizations. Study of organizational structure of development departments. Study of decision making patterns, Study of individual and group behavior at work in an organization. Conflicts and their management in an organization. Comparative study of functional and non-functional organizations and identifying factors for organizational effectiveness.

Theory Lecture Schedule

1. Organizations – concept, characteristics and importance of organizations

2. Types of organizations – formal and informal organizations – advantages & disadvantages
3. Theories of organizations – classical organization theory
4. Neo classical organization theory
5. Modern organization theory
6. Organizational structure – Concept and Types of organizational structures
7. Factors affecting organizational structure
8. Steps in designing organizational structure
9. Role of organizational structure, Features of good organizational structure
10. Organizational charts and manuals.
11. Organizational communication – concept, process, need and importance
12. Types of organizational communication
13. Barriers in organizational communication
14. Tips for making effective communication in an organization
15. Leadership – concept, characteristics, importance and functions of leadership
16. Theories of leadership
17. Mid-semester Examination
18. Leadership styles.
19. Motivation – concept, types, theories of motivation
20. Organizational Behaviour –context and concept-Dynamics of organizational behavior
21. Leadership conflict situations and inter group behavior
22. Importance of groups and teams in an organization
23. Organizational culture and performance
24. Organizational development-definition, types of OD activities
25. Factors influencing organizational effectiveness
26. Extension management – Meaning, Concept, Importance, Principles of Management and Functions of Management.
27. Levels of management, Qualities and Skill of the Managers
28. Planning – concept, features and importance of planning
29. Types of plans and tips for making effective planning in an organization
30. Decision making – Concept, Types of decisions, Styles and techniques of decision making.
31. Steps in DM process, Guidelines for making effective decisions.
32. Span of Management and Departmentalization
33. Authority and responsibility, Delegation and decentralization,
34. Line and staff relations in an organization.

Practical Schedule

1. Visit to an Agrl.ExtensionOrganization to study about its organizational process
2. Visit to the State Department of Agriculture to study about its organizational structure
3. Visit to an Agro based industry to study about its organizational climate
4. Visit to an Agro tech company to study about its organizational climate
5. Visit to a Self Help Group to study about its span of control and delegation of authority
6. Visit to a private Agrl. Firm to study about its decision making pattern
7. Conducting role play
8. Conducting tower building
9. Conducting ring-toss
10. Visit to an Agrl. Extension Centre to study about leadership styles
11. Visit to a food processing organization to study about motivation techniques

12. Visit to a NGO/SHG organization to study about individual and group behavior
13. Visit to a private agro-based industry to study about organizational effectiveness
14. Visit to a private agro-based industry to study about conflict management
15. Visit to the State Department of Agriculture organization to study about departmentalization
16. Comparative study of functional and non-functional organizations
17. Identifying the factors for organizational effectiveness.

COURSE OUTCOME

At the end of the course, students will be able to

CO1: Understand concepts, types and characteristics of organizations

CO2: Identify organizational structure and appreciate its importance

CO3: Analyseorganizational behavior, organizational communication and organizational development

CO4: Develop leadership skills for management

CO5: Develop skills on different techniques of management in extension organizations.

CO – PO MAPPING TABLE

CO	PO 1	PO 2	PO 3	PO 4	PO5
CO 1		3	3		
CO 2		3	3	3	
CO 3		3	3	3	2
CO 4	1	3	3	2	3
CO 5	2	3	3	2	2

References

1. Decerzo, David, A and Stephen.P Robbins, 2001. Personnel Management. New Delhi: Prentice Hall of India.
2. Gupta, C.B. 2006. Management – Theory and Practice. New Delhi: Sultan Chand & Sons Pvt. Ltd.,
3. Gupta, C.B. 2007. Human Resource Management. New Delhi: Sultan Chand and Sons Ltd.
4. Robbins, S.P. 2007. Organizational Behaviour. Practice Hall.
5. Prasad, L.M.2015. Principles and Practices of Management. New Delhi: Sultan Chand & Sons Pvt. Ltd.,

E-Resources

1. Organization development.org
2. www.docsity.com
3. Shodhganga.inflibnet.ac.in

AEX 822 ADVANCES IN INSTRUCTIONAL TECHNOLOGY (2+1)

LEARNING OBJECTIVES

To enable the students to

- To understand the Agricultural education scenario in the country and the curriculum development process.
- To plan, prepare and present lesson plan and to develop skills for writing for instructional media.
- To gain knowledge on innovative instructional aids and methods.

Theory

Unit I Concepts of Instructional Technology

Concepts in Instructional Technology – Scope of Instructional Technology – Guidelines for curriculum development – Distance education – Dimensions of Distance Education – Open Education – Non-formal Education, Continuing Education – use of instruction methods in Distance and Open Education.

Unit II Principles and Objectives of Instructional Technology

Instructional Technology – Principles, Objectives and Theories – Instructional designs – Types of Instructional designs – Objective – based instructional design, Skill – based instructional design, Competency based instructional design, Learners' style – based instructional design, Model based instructional design – Principles and factors in selecting and using the instructional methods and aids.

Unit III Lesson plans

Lesson planning – Broad principles – steps in lesson planning – Essentials of a Good lesson plan – Approaches to lesson planning – lesson plans for theory and practical – Teaching and learning styles – understanding learners' 38 ehavior and motivation of learners.

Unit IV Instructional Media

Writing for instructional media. Basics of audio – module production, Script writing for interactive Video, Designing Video – based trainings design and development of audio – video aids, Principles of designing and lay-out of print media, Communication and presentation skills multimedia presentation using PowerPoint – E-learning.

Unit V Instructional aids and methods

Traditional methods – Innovative Instructional aids and methods – Experiential learning cycle – Computer Assisted Instruction – Programmed Instruction Technique – Team Teaching – Concept, Objectives , Principles, advantages and disadvantages, types of team teaching, procedure for organization of team teaching. Art of effective communication – Student Evaluation – Appraisal of teacher performance. Review of research studies in Instructional Technology.

Practical

Formulation of instructional Course Objective. Development and presentation of course outlines. Preparation and presentation of lesson plans for theory and practical with Computer Assisted Instructional design. Preparation and presentation of Power Point, Recording and Editing for video, Team teaching. Utilizing online resources in teaching. Preparation of schedule for teacher evaluation. Visit to Distance Education centre, Preparation of project, Presentation of research proposal in instructional technology.

Theory Lecture Schedule

1. Concepts in Instructional technology, Scope of instructional technology.
2. Curriculum Development – Meaning and Significance
3. Guidelines for curriculum development in Agrl. Universities.
4. Distance education, dimensions of distance education.
5. Open education, non-formal education, continuing education.
6. Use of instruction methods in distance and open education.
7. Principles of instructional technology, objectives of instructional technology.
8. Theories of instructional technology.
9. Instructional designs – types of instructional designs – objective based instructional design, skill based instructional design.
10. Competency based instructional design, learners style based instructional design, model based instructional design.
11. Principles and factors in selecting and using the instructional methods and aids.
12. Lesson planning – broad principles and steps in lesson planning – Essentials of a good lesson plan.

13. Approaches to lesson planning – lesson plans for theory and praticals.
14. Teaching and learning styles.
15. Understanding learnersbehaviour and motivation of learners.
16. Writing for instructional media.
17. Mid-semester Examination.
18. Basics of audio-module production.
19. Script writing for interactive video.
20. Designing video based trainings and development of audio – video aids.
21. Principles of designing and lay out print media.
22. Communication and presentation skills.
23. Multimedia presentation using power point.
24. E-learning.
25. Traditional methods.
26. Innovative instructional aids and methods.
27. Experiential learning cycle.
28. Computer assisted instruction – Programmed instruction technique.
29. Team teaching – Concept, objectives, principles, advantages and disadvantages.
30. Types of team teaching.
31. Procedure for organization of team teaching.
32. Art of effective communication.
33. Student evaluation – Appraisal of teacher performance
34. Review of research studies in Instructional technology.

Practical Schedule

1. Formulation of instructional course objectives.
2. Development of course outline.
3. Presentation of course outline.
4. Preparation of lesson plan for theory.
5. Preparation of lesson plan for theory with CAI design.
6. Preparation of lesson plan for practicals.
7. Preparation of lesson plan for practicals with CAI design.
8. Preparation and presentation of Power Point.
9. Recording and editing for video.
10. Recording and editing for video.
11. Conducting team teaching.
12. Utilizing online resources in teaching.
13. Preparation of schedule for teacher evaluation.
14. Preparation of schedule for student evaluation.
15. Visit to distance education centre.
16. Preparation of research project in instructional technology.
17. Presentation of research project in instructional technology.

COURSE OUTCOME

At the end of the course, students will be able to

CO1 :Understand the Concepts of Instructional Technology

CO2 :Evaluate and criticize various instructional designs

CO3 :Write lesson plans for theory and practicals

CO4 :Design and develop audio and video aids

CO5 :Apply e-learning devices for communication

CO – PO MAPPING TABLE

CO	PO 1	PO 2	PO 3	PO 4	PO5
CO1	3	3		3	
CO2	3	2		3	
CO3	3			3	
CO4	3	3	2	3	
CO5	3	3	3	3	

References

1. Grover I, Kaushik S, Yadav, L and Verma S.K. 2002. Communication and Instructional Technology. Jodhpur: Agro Tech Publication Academy.
2. Karthikeyan, C and R.Balasubramaniam, 2005. A text book on Instructional Technology. Jaipur: RBSA publishers.
3. Dayal, B.K. 2005. Educational Planning and Development. New Delhi: Dominat Publications.
4. Vanaja, M. 2006. Educational Technology. New Delhi: Neelkamal Publications.
5. Agarwal, J.C. 2007. Essentials of Educational Technology Innovations in Teaching – Learning. 2nd Ed. New Delhi: Vikas Publications House.
6. Singh, B.B., Singh, Amardeep, Ansari, M.A., Kameshuari, V.L.V and A.K. Singh, 2007 Instructional Technology and Multimedia production for Agrl. Students. Udaipur: Agrotech Academy Publishers.

E-Resources

1. www.researchgate.net
2. https://www.igi-global.com.
3. https://www.teachervision.com
4. https://www.uwo.ca/its/itrc/resources/web_resources.htm

AEX 823 ADVANCED MANAGEMENT TECHNIQUES (2+1)

LEARNING OBJECTIVES

- Develop understanding on concept of MIS, its scope in agriculture extension organization.
- Understand, develop and evaluate the MBO system.
- To cope up with stress, resolve conflicts and develop effective inter-personal communication skills using Transactional analysis.
- To plan and use DSS, AI, ES, PERT, CPM.

Theory

Unit I Various Types of Extension Management, Strategic Management, Scientific Management, Knowledge management

Extension Management -Concept and meaning, objectives, importance – characteristics of management, principles of management, theories of management, functions of management-planning, organising, staffing, directing and leading, controlling, reporting and budgeting. Strategic Management-Concept of strategy, types of strategy, components of strategy, strategic management process, steps in strategic management, benefits of strategic management. Scientific Management-Meaning and definition, principles of scientific management, techniques of scientific management. Knowledge Management-Concept and definition, importance of knowledge management, approaches to knowledge management- knowledge management and human resource.

Unit II Emotional intelligence- Reward and punishment- Problem solving-Talent management -Management InformationSystem(MIS) and Management By Objectives(MBO)

Emotional Intelligence-Concept and definition, components of emotional intelligence, steps for development of emotional intelligence. Reward and Punishment-Concept and meaning, aims of reward management, elements of reward management. Problem Solving-Concept of problem solving-types of problem solving , problem solving skills, identifying and analysing problems, generating solutions, encouraging creative thinking, problem solving failure to blocks, solve problems effectively. Talent management- Meaning and definition, talent drives performance, talent management process, element of talent management, stages of talent management process, benefits of talent management. ManagementInformationSystem(MIS)–Concept,typesof information needs at differentlevels,designofMISinanorganization;Scope for Computerization– system alternatives andevaluation– implementation– operation and maintenanceofthesystem. Management BYObjectives(MBO) – Concept, elements, process, makingMBOeffective, evaluation, strengths and weaknesses.

Unit III TransactionalAnalysis(TA), Stress, Team Building, Conflict Management

Transactional Analysis- Concept and meaning , ego states, development of transactional analysis, transactions and strokes, kinds of transactions, Stress-Concept and definition, causes of stress, effects of stress, the four facets of stress management, coping mechanism and managing stress, stress management approaches. Team Building-Meaning and definition, characteristics of a team, understanding teams and their structures, stages of group development, roles of team members, nature of team work, approaches of team building, facilitators and barriers to effective relationships, twelve Cs for team building, types of teams, leadership function in team building. Conflict Management-Concept and meaning, types of conflict, functional and dysfunctional conflict, conflict management, styles of conflict management, stages in conflict management, conflict management strategies.

UnitIV Motivation, Performance Management, Performance Appraisal, Time Management, Decision Making

Motivation- Meaning and definition of motivation, characteristics of motivation, de-motivates for employees, motivation at different levels, motivating the subordinates. Performance Management-Definition, aims of performance management, characteristics of performance management, performance assessment techniques, Performance Appraisal-Concept and definition, purpose of performance appraisal. Time Management-Meaning and definition, time management techniques, time management tips, five Ds for better time management, benefits of time management. Decision Making-Definition, types of decisions, decision making skills, key elements of effective thinking and decision making, decision making steps.

UnitV Decision Support System, Artificial Intelligence (IA), Expert system, Forecasting Techniques, Network Scheduling Techniques, SWOT Analysis,Break-Even Analysis

Decision Support System-Meaning and definition, essentials elements of DSS, classification, benefits. Artificial Intelligence (IA) and its application in extension, Expert System-Definition, components of expert system, creation of expert system. Forecasting Techniques - Concept of forecasting, definition, purpose, steps in forecasting, forecasting techniques and routes, Time series analysis, Delphi technique, their applications in extension system. Network Scheduling Techniques- Gantt chart, Line of Balance (LOB), PERT and CPM techniques, Graphical Evaluation Review Technique (GERT) and Resource Allocation and Multi-Project Scheduling (RAMPS). SWOT Analysis-Concept and meaning, procedure for SWOT analysis, SWOT Matrix, Drawback of SWOT analysis. Break-Even Analysis-The break event chart, fixed costs, variable costs, semi-variable costs.

Practical

Visit to research and management organizationstostudy

theMIS,MBO,StressManagementand Conflict Management, skills in coping with organisational stress. PracticingTransactional Analysis(TA) and team building exercises. Exercise on Decision Support System- Practicing forecasting and network scheduling techniques-Delphi method, Gantt chart, LOB, PERT, CPM, SWOT and Break-Even Analysis.

Theory Lecture Schedule

1. Extension Management -Concept and meaning, objectives, importance – characteristicsof management, principles of management, theories of management
2. Functions of management-planning, organising, staffing, directing and leading, controlling, reporting and budgeting
3. Strategic management-Concept of strategy, types of strategy, components of strategy, strategic management process, steps in strategic management, benefits of strategic management
4. Scientific management-Meaning and definition, principles of scientific management, techniques of scientific management
5. Knowledge management-Concept and definition, importance of knowledge management, approaches to knowledge management- knowledge management and human resource
6. Emotional Intelligence-Concept and definition, components of emotional intelligence, steps for development of emotional intelligence
7. Reward and Punishment-Concept and meaning, aims of reward management, elements of reward management
8. Problem Solving-Concept of problem solving-types of problem solving , problem solving skills, identifying and analysing problems, generating solutions, encouraging creative thinking, problem solving failure to blocks, solve problems effectively
9. Talent management- Meaning and definition, talent drives performance, talent management process, element of talent management, stages of talent management process, benefits of talent management
10. ManagementInformationSystem(MIS)–Concept,typesof information needs at differentlevels,designofMISinanorganization
11. Scope for Computerization– system alternatives andevaluation– implementation– operation and maintenanceofthesystem
12. Management BYObjectives(MBO) – Concept, elements, process, makingMBOeffective, evaluation, strengths and weaknesses
13. Transactional Analysis- Concept and meaning, ego states, development of transactional analysis, transactions and strokes, kinds of transactions
14. Stress-Concept and definition, causes of stress, effects of stress, the four facets of stress management, coping mechanism and managing stress, stress management approaches
15. Team Building-Meaning and definition, characteristics of a team, understanding teams and their structures
16. Stages of group development, roles of team members, nature of team work, approaches of team building, facilitators and barriers to effective relationships, twelve Cs for team building,types of teams, leadership function in team building
17. Mid Term Examination
18. Conflict Management-Concept and meaning, types of conflict, functional and dysfunctional conflict, conflict management
19. Styles of conflict management, stages in conflict management, conflict management strategies
20. Motivation- Meaning and definition of motivation, characteristics of motivation, de-motivates for employees, motivation at different levels, motivating the subordinates

21. Performance Management-Definition aims of performance management, characteristics of performance management
22. Performance assessment techniques, Performance Appraisal-Concept and definition, purpose of performance appraisal
23. Time Management-Meaning and definition, time management techniques, time management tips, five Ds for better time management, benefits of time management
24. Decision Making-Definition, types of decisions, decision making skills, key elements of effective thinking and decision making, decision making steps
25. Decision Support System-Meaning and definition, essentials elements of DSS, classification, benefits
26. Artificial Intelligence (IA) and its application in extension
27. Expert System-Definition, components of expert system, creation of expert system
28. Forecasting Techniques - Concept of forecasting, definition, purpose, steps in forecasting, forecasting techniques and routes
29. Time series analysis, Delphi technique and their applications in extension system
30. Network Scheduling Techniques- Gantt chart, Line of Balance (LOB)
31. PERT and CPM techniques
32. Graphical Evaluation Review Technique (GERT) and Resource Allocation and Multi-Project Scheduling (RAMPS).
33. SWOT Analysis-Concept and meaning, procedure for SWOT analysis, SWOT Matrix
34. Drawback of SWOT analysis. Break-Even Analysis-The break event chart, fixed costs, variable costs, semi-variable costs.

Practical Schedule

1. Visit to management institution to study about MIS
2. Visit to management institution to study about MBO
3. Visit to management institution to study about stress management
4. Visit to management institution to study about conflict management
5. Visit to research institution to study about MIS
6. Visit to research institution to study about MBO
7. Practising Transactional Analysis
8. Report writing on Transactional Analysis
9. Practising Team building exercise
10. Report writing on Team building
11. Practising forecasting technique-Delphi method
12. Report writing onDelphi method
13. Practising forecasting technique-PERT
14. Report writing on PERT
15. Practising forecasting technique-CPM
16. Report writing on CPM
17. PractisingBreak Even Analysis

COURSE OUTCOME

At the end of the course, students will be able to

CO 1: Develop understanding on concept of MIS, its scope in agriculture extension organization.

CO 2: Understand, develop and evaluate the MBO system.

CO 3: To cope up with stress, resolve conflicts and develop effective inter-personal communication skills using Transactional analysis.

CO 4 : To plan and use DSS, AI, ES, PERT, CPM.

CO 5 : Understand motivation, Performance Appraisal, Time Management and Decision Making

CO – PO MAPPING TABLE

CO	PO 1	PO 2	PO 3	PO 4	PO5
CO1	3	3		3	
CO2	3	3	2	3	
CO3	3	3		3	2
CO4	3	3		3	
CO5	3	3	3	3	3

References

1. Garry, D., 2001. Human Resource Management. 7th Ed., Prentice Hall of India, New Delhi.
2. Grower,I., Yadav L. And Grower D. 2002. Extension Management. Agrotech Publishers, Udaipur.
3. Koontz, H., andWeihrichHeinz. 2004. Essentials ofmanagement. Tata McGraw.HillpublishingCompany Ltd.
4. Prasad, L.M.2005 Principles and Practice of Management, Sultan Chand & Sons.
5. Jain J.N. and Singh P.P.2007 Modern Management: Principles and Techniques. Regal Publishers, New Delhi.
6. Sharma,O.P.Sharma, Narendra Singh and Ruchira Shukla 2012. Advanced ManagementTechniques. Agrotech Publishing Academy, Udaipur.

E- Resources

1. http://www.elearn-university.org/Management%20Techniques.html
2. http://en.wikipedia.org/wiki/Management_by_objectives
3. http://www.mcc.cmu.ac.th/research/DSSARM/DSSARM.html
4. http://www.iaeng.org/publication/IME

AEX 824 TRANSFER OF TECHNOLOGY IN AGRICULTURE (2+1)

LEARNING OBJECTIVES

- Develop thorough understanding on different systems of Technology Transfer
- Develop appropriate communication & Media Strategy suitable to the System of Technology Transfer
- Develop understanding on communication tools and e- extension tools in transfer of technology
- Analyse the constraints in Systems of Technology Transfer Technology and suggest suitable Strategies.

Theory

UNIT I Concepts of TOT

Technology - Meaning and Concepts - Appropriate technology for transfer of technology - meaning and concepts. Systems of transfer of technology -Knowledge Generating System (KGS) - Knowledge Disseminating System (KDS)- Knowledge Consuming System (KCS) - Input Supplying Agencies System (ISAS).

UNIT II Communication media in TOT

Appropriateness of communication media in the system of technology transfer.New communication strategy for transfer and adoption of agricultural technology. Extension training in transfer of technology.

UNIT III Extension agents in TOT

Analysis of Constraints in Transfer of Technology, Agencies or Departments involved in TOT. Extension professional in TOT. Attributes of Technology and its relation in TOT process. TOT to resource poor farmers. Role of Key communicators or local leaders in TOT. Private and Public partnership in TOT.

UNIT IV Communication tools in TOT

Communication tools – Modern communication methods in TOT – ICT in Agricultural development – Computer Assisted Instruction – Information Kiosks Indian Natural Agricultural Research Data base – Use of multimedia in Agricultural Technology Transfer.

UNIT V E-extension in TOT

E-extension in Transfer of Technology (TOT), Problems in using E-extension tools. Role of mass media channels in Transfer of Technology. Recent Research Studies in TOT

Practical

Practical Analysis of Transfer of technology. Analysis of knowledge generation and consuming systems. Formulation of communication strategies, Study of attributes of selected fast spreading technologies and slow technologies, study of constraints in TOT, Visit to TOT centers of ICAR and SAU, Identification of Key communicators, Case studies of Public-Private Partnerships, Visits to the print and electronic media centers to study their role in TOT.

Theory Lecture Schedule

1. Transfer of Technology - Meaning and Concepts
2. TOT – Need and Importance
3. TOT – its significance in today's context.
4. Appropriate technology for TOT
5. Systems of Technology Transfer- Knowledge Generating System (KGS)
6. Knowledge Disseminating System (KDS), Knowledge Consuming System (KCS)
7. Input Supplying Agencies System (ISAS)
8. Communication media in TOT
9. Appropriateness of communication media in TOT.
10. New communication strategy for TOT
11. New communication strategy for adoption
12. Extension training : concepts
13. Role of Extension training in TOT
14. Training for Trainers in TOT
15. Analysis of Constraints in TOT
16. Departments involved in TOT.
17. Mid Semester Examination
18. Extension professionals in TOT
19. Attributes of Technology
20. TOT to resource poor farmers.
21. Role of Key communicators
22. Private and Public partnership in TOT.
23. Modern communication tools in TOT
24. ICT in Agricultural Extension
25. Computer Assisted Instruction (CAI)
26. Information Kiosks

27. Agricultural Research Data base
28. Use of multimedia
29. Multimedia tools in TOT
30. Problems in using E-extension tools.
31. Role of mass media channels in TOT
32. Significance of mass media channels in TOT
33. Latest mass media channels in TOT
34. Recent Research Studies in TOT

Practical Schedule

1. Analyzing the tools used in TOT

2&3. Studying the communication strategies used in the villages by the extension officials

4. Studying the attributes of fast spreading farm innovations in villages
5. Studying the attributes of slow spreading farm innovations in villages.
6. Analyzing the constraints in TOT
7. Visit to TOT centre of ICAR or SAU.
8. Identification of key communicators
9. Identification of local leaders
10. Analyzing public-private partnership in TOT
11. Case studies of public-private partnership in TOT
12. Case studies of GO-NGO collaboration in TOT
13. Visit to print media centre in TOT
14. Visit to electronic media centre in TOT
15. Analysis of the role of radio in TOT
16. Analysis of TV in TOT
17. Analysis of Print in TOT

COURSE OUTCOME

At the end of the course, students will be able to

CO 1 :Develop thorough understanding on different systems of Technology Transfer

CO 2 :Develop appropriate communication & Media Strategy suitable to the System of Technology Transfer

CO 3 :Develop understanding on communication tools and e- extension tools in transfer of technology

CO 4 :Analyse the constraints in Systems of Technology Transfer Technology and suggest suitable Strategies.

CO 5 : Apply various ICT tools in transfer of Technology

CO – PO MAPPING TABLE

CO	PO 1	PO 2	PO 3	PO 4	PO5
CO1	3		3		
CO2	3	3	2		
CO3	3	3	2	2	
CO4	3		3		
CO5	3	3	2	2	

References

1. Wallender HW. 1980. Technology Transfer of Management in the Developing Countries. Cambridge: Ballinger Publ. Co.

2. Ray, G.L and Sagar Mandal. 2010. Journalism, Farm Journalism and Communication skills. Calcutta, Kalyani Publishers.
3. Rogers, E.M. 2003. Diffusion of Innovations, New York: The Free Press.
4. Saravanan, R. 2010. (Ed.) ICTs for Agricultural Extension: Global Experiments, Innovations and Experiences, New Delhi, New India Publishing Agency (NIPA).
5. Chauhan Nikulsingh. 2013. Use of ICTs in Agricultural Extension, Biotech Books.

E-Resources

1. www.pearsoned.com (Pearson Education Publication)
2. www.mcgraw-hill.com (McGraw-Hill Publishing Company)
3. www.oup.com (Oxford University Press)
4. www.emeraldinsight.com (Emerald Group Publishing)

AEX 825 ENTREPRENEURSHIP DEVELOPMENT (2+1)

LEARNING OBJECTIVES

- To help the students to gain knowledge and skills in different concepts and techniques of enterprise management
- To provide overall picture of planning and development of enterprises for extending sustainable livelihoods.
- To gain knowledge on Government Policies, Incentives, Programmes and Schemes for Entrepreneurship Development

Theory

Unit I Concept of Entrepreneurship Development

Concept of Entrepreneur, Entrepreneurship, Distinction between an Entrepreneur and a Manager ; Management – Levels & Functions of Management – planning Organizing -Directing – motivation – ordering – leading – supervision-Communication and control; Characteristics of Entrepreneurs; Opportunities for entrepreneurship and rural entrepreneurship.

Unit II Types and Entrepreneurship Development Programmes (EDPs)

Types of Entrepreneurs, Functions of Entrepreneurship, Agri – Entrepreneurship - Concept, Need and Scope. Assessing overall entrepreneurship environment in Indian economy; Globalization and the emerging enterprises and entrepreneurial environment: Entrepreneurship Development Programmes (EDPs) – Objectives, Phases, Problems of EDPs, Entrepreneurial behavior and Role of Achievement Motivation, Factors Affecting Entrepreneurship Development; Generation, Incubation and Commercialization of Entrepreneur Business Ideas. Environment scanning and opportunity identification, Researching / Managing Competition - Ways to define possible Competitors; Globalization and the emerging business entrepreneurial environment.

Unit III ED in Economic Development

Role of ED in economic development of India - Overview of Indian social, political systems and their implications for decision making by individual entrepreneurs, SWOT Analysis - Concept, Meaning and Advantages. Government Policies, Incentives, Programmes and Schemes for Entrepreneurship Development; Export and Import Policies relevant to Indian Agriculture Sector. Institutional Support - Financial Institutions and other agencies in entrepreneurship development.

Unit IV Activities of Enterprises

Venture capital (VC), contract farming (CF) and joint ventures (JV), Public-private partnerships (PPP); Overview of agricultural Input industry – Seed, Fertilizer, Pesticides, Farm Machinery, Agricultural Food Processing Industry; Steps in establishment of (MSME)

Micro small and medium enterprises - Planning of an enterprise, Project identification, Selection of the product / services, selection of form of ownership; registration, selection of site, capital sources, acquisition of manufacturing know how, packaging and distribution;

Unit V Projects in Enterprises

Project Planning, Formulation and Project Report - Meaning - Importance - Components and Preparation; Supply chain management - Meaning, advantages, stages and process and total quality management. Marketing management. Market types - Marketing assistance - Market strategies. Morals and ethics in enterprise management. Assessment of entrepreneurship skills. Business leadership skills. Communication skills for entrepreneurship development. Developing organizational skill. Developing managerial skills - Problem solving skill and time management skills

Practical

Field Visits to study Agri - based industries by entrepreneurial Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis, Constraints in setting up of agro enterprise industries; Formulation of project feasibility reports; industrial and agribusiness houses; Characteristics of Successful Entrepreneurs, Characteristics of Successful Agripreneurs, Local Financial Institutions to study the MSME Policies, Visit to Entrepreneurial Development Institute to study the Process of Entrepreneurship Development, Local Public - Private Enterprises to study the Enterprise Establishment and Management Process as well as Assessing entrepreneurial potential problem solving ability, managerial skills and achievement motivation, exercise in Creativity, time audit, preparation of business plan and proposal writing; Carrying out the SWOT Analysis of nearby Successful Enterprises. Visit to nearest Agri - Clinic and Agri - Business Centre's,

Lecture Schedule

1. Concept of entrepreneur, entrepreneurship - Distinction between an entrepreneur and a manager.
2. Management levels - Management functions – Planning - Organizing - Directing - Motivation - Ordering - Leading – Supervision - Communication and Control.
3. Characteristics of entrepreneurs - Opportunities for entrepreneurship and rural entrepreneurship - Types of entrepreneurs and functions of entrepreneurship.
4. Agri – entrepreneurship – Concept, need and scope.
5. Assessing overall business environment in Indian economy and globalization and the emerging business entrepreneurial environment.
6. Entrepreneurship development programmes (EDPs) – Objectives, phases, problems of EDPs - Entrepreneurial behavior and role of achievement - Motivation, factors affecting entrepreneurship development.
7. Generation, incubation and commercialization of business ideas - Environment scanning and opportunity identification - Researching/ Managing competition - Ways to define possible competitors.
8. Globalization and the emerging business entrepreneurial environment - Role of ED in economic development of a India
9. Overview of Indian social, political systems and their implications for decision making by individual entrepreneurs.
10. SWOT Analysis - Concept, meaning and advantages.
11. Government policies, incentives, programmes and schemes for entrepreneurship development.
12. Export and import policies relevant to Indian Agriculture sector.
13. Institutional support - Financial Institutions and other agenciesin Entrepreneurship Development.
14. Venture capital (VC).

15. Contract farming (CF)
16. Joint ventures (JV)
17. Mid Semester Examination
18. Public-private partnerships (PPP).
19. Overview of agricultural input industry – Seed, fertilizer, pesticides, farm machinery and agricultural food processing industry.
20. Steps in establishment of MSME Enterprise.
21. Planning of an enterprise.
22. Project identification - Selection of the product/ services.
23. Selection of form of ownership - Registration, selection of site, capital sources, acquisition of manufacturing know how, packaging and distribution.
24. Project planning.
25. Formulation and project report - Meaning - Importance - Components and preparation.
26. Supply chain management - Meaning, advantages, stages and process and total quality management.
27. Marketing management.
28. Market types - Marketing assistance - Market strategies.
29. Morals and ethics in enterprise management.
30. Assessment of entrepreneurship skills .
31. Business leadership skills.
32. Communication skills for entrepreneurship development.
33. Developing organizational skill.
34. Developing managerial skills - Problem solving skill and time management skills.

Practical Schedule

1. Field visits to study Agri - based entrepreneurial industries/ business – Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis.
2. Field visits to study the constraints in setting up of agro based industries.
3. Formulation of project feasibility reports and industrial and agri-business houses.
4. Field visits to study the formulation of project feasibility reports.
5. Field visits to study the industrial and agri-business houses.
6. Field visits to study the characteristics of successful entrepreneurs.
7. Field visits to study the Local Financial Institutions to study the MSME Policies.
8. Field visits to study the Entrepreneurial Development Institute to study the Process of Entrepreneurship Development.
9. Field visits to the local Public - Private Enterprises to study the Enterprise Establishment and Management Process.
10. Field visit to the local Public - Private Enterprises to study the Assessing entrepreneurial potential problem solving ability.
11. Field visits to the local Public - Private Enterprises to study the managerial skills and achievement motivation.
12. Practicing exercise in creativity and time audit.
13. Practicing exercise in preparation of business plan and proposal writing.
14. Visit to nearest Agri – Clinic.
15. Visit to Agri - Business Centre.
16. Problem identification of Agri entrepreneur
17. PowerPoint Presentation of assignment

COURSE OUTCOME

At the end of the course, students will be able to

CO1: Understand the Concepts of entrepreneur, entrepreneurship and management

CO2: Appreciate the role of entrepreneurship in economic development
CO3: Assess the importance of Entrepreneurship Development Training Programmes
CO4: Develop entrepreneurial and managerial skills and become successful entrepreneurs
CO5: Prepare feasible project reports

CO – PO MAPPING TABLE

CO	PO 1	PO 2	PO 3	PO 4	PO5
CO1	3	3			3
CO2		3			3
CO3		3	2	3	3
CO4		3	2	3	3
CO5	2			3	3

References

1. Gupta, C.B. 2001. Management: Theory and Practice. New Delhi: Sultan Chand and Sons.
2. Anil Kumar, S., Poornima, S. C., Mini, K., Abraham andJayashree, K. 2003. Entrepreneurship Development. New Delhi: New Age International Publishers
3. Prasad, R. 2003. Entrepreneurship - Hyderabad : Concepts and Cases. I C F A I Publications.
4. SagarMondal and Ray, G. L. 2003. Text Book of Entrepreneurship and Rural Development. Ludhiana: Kalyani Publishers.
5. Indu Grover 2008. Handbook on Empowerment and Entrepreneurship. Daipur: Agrotech Publishing Academy.
6. Mary Coulter 2008. Entrepreneurship in Action. New Delhi : Prentice Hall of India Pvt. Ltd.,
7. Mohanty, S.K. 2009. Fundamentals of Entrepreneurship. New Delhi: Prentice Hall of India Pvt. Ltd.,
8. Bhaskaran, S. 2014. Entrepreneurship Development & Management. Meerut: Aman Publishing House.

E-Resources

1. www.youralriclalibrary.com
2. www.ictacademy.in
3. www.manage.gov.in/misc/agri-entrepreneurship
4. https://www.researchgate.net/publication/Agricultural_Entrepreneurship
5. *http://www.icrisat.org/tag/agri-entrepreneurship/*