Discipline : Agricultural Extension

Discipline Code : 04

Roll No.

Please Note:

(i) This question paper contains 13 pages. **Please check whether all the pages are printed in this set.** Report discrepancy, if any, **immediately** to the invigilator.

(ii) *There shall be NEGATIVE marking for WRONG answers in the Multiple Choice type questions (No. 1 to 130) which carry one mark each. For every wrong answer 0.25 mark will be deducted.*

PART – I (General Agriculture)

Multiple choice questions (No. 1 to 30). Choose the correct answer (*a, b, c* or *d*) and enter your choice in the circle (by shading with a pencil) on the OMR - answer sheet as per the instructions given on the answer sheet.

1. Which of the following crops have been approved for commercial cultivation in India?
a) Bt cotton and Bt brinjal
b) Bt cotton and Golden Rice
c) Bt maize and Bt cotton
d) Bt cotton only

2. This year (2010-11) the expected food grain production in India is
a) 212 million tonnes
b) 220 million tonnes
c) 235 million tonnes
d) 250 million tonnes

3. The genome of which of the following crops is still not completely sequenced?
a) Rice
b) Soybean
c) Sorghum
d) Wheat

4. According to the Approach Paper to the 12th Five Year Plan, the basic objective of the 12th Plan is
a) Inclusive growth
b) Sustainable growth
c) Faster, more inclusive and sustainable growth
d) Inclusive and sustainable growth

5. To address the problems of sustainable and holistic development of rainfed areas, including appropriate farming and livelihood system approaches, the Government of India has set up the
a) National Rainfed Area Authority
b) National Watershed Development Project for Rainfed Areas
c) National Mission on Rainfed Areas
d) Command Area Development and Water Management Authority

6. Which of the following sub-schemes are not covered under the Rashtriya Krishi Vikas Yojana?
a) Extending the Green Revolution to eastern India
b) Development of 60,000 pulses and oilseeds villages in identified watersheds
c) National Mission on Saffron
d) National Mission on Bamboo

7. The minimum support price for the common variety of paddy announced by the Government of India for the year 2010-11 was
a) ₹ 1030
b) ₹ 1000
c) ₹ 980
d) ₹ 950

8. According to the Human Development Report 2010 of the United Nations, India's rank in terms of the human development index is
a) 119
b) 134
c) 169
d) 182

9. Which of the following does not apply to SRI method of paddy cultivation?
a) Reduced water application
b) Reduced plant density
c) Increased application of chemical fertilizers
d) Reduced age of seedlings

10. Which organic acid, often used as a preservative, occurs naturally in cranberries, prunes, cinnamon and cloves?
a) Citric acid
b) Benzoic acid
c) Tartaric acid
d) Lactic acid

11. Cotton belongs to the family
a) Cruciferae
b) Anacardiaceae
c) Malvaceae
d) Solanaceae

12. Photoperiodism is
a) Bending of shoot towards source of light
b) Effect of light/dark durations on physiological processes
c) Movement of chloroplast in cell in response to light
d) Effect of light on chlorophyll synthesis

13. Ergot disease is caused by which pathogen on which host?
a) Claviceps purpurea on rye
b) Puccinia recondita on wheat
c) Drechlera sorokiniana on wheat
d) Albugo candida on mustard

14. Rocks are the chief sources of parent materials over which soils are developed. Granite, an important rock, is classified as
a) Igneous rock
b) Metamorphic rock
c) Sedimentary rock
d) Hybrid rock

15. Which one of the following is a Kharif crop?
a) Pearl millet
b) Lentil
c) Mustard
d) Wheat

16. The coefficient of variation (C.V.) is calculated by the formula
a) (Mean/S.D.) × 100
b) (S.D./Mean) × 100
c) S.D./Mean
d) Mean/S.D.

17. Which of the following is commonly referred to as muriate of potash?
a) Potassium nitrate
b) Potassium chloride
c) Potassium sulphate
d) Potassium silicate

18. Inbred lines that have same genetic constitution but differ only at one locus are called
a) Multi lines
b) Monohybrid
c) Isogenic lines
d) Pure lines

19. For applying 100 kg of nitrogen, how much urea would one use?
a) 45 kg
b) 111 kg
c) 222 kg
d) 333 kg

20. The devastating impact of plant disease on human suffering and survival was first realized by epidemic of
a) Brown spot of rice in Bengal
b) Late blight of potato in USA
c) Late blight of potato in Europe
d) Rust of wheat in India

21. The species of rice (Oryza) other than O. sativa that is cultivated is
a) O. rufipugon
b) O. longisteminata
c) O. glaberrima
d) O. nivara

22. The enzyme responsible for the fixation of CO_2 in mesophyll cells of C-4 plants is
a) Malic enzyme
b) Phosphoenol pyruvate carboxylase
c) Phosphoenol pyruvate carboxykinase
d) RuBP carboxylase

23. Which one of the following is a 'Vertisol'?
a) Black cotton soil
b) Red sandy loam soil
c) Sandy loam sodic soil
d) Submontane (Tarai) soil

24. What is the most visible physical characteristic of cells in metaphase?
a) Elongated chromosomes
b) Nucleus visible but chromosomes not
c) Fragile double stranded loose chromosomes
d) Condensed paired chromosomes on the cell plate

25. All weather phenomena like rain, fog and mist occur in
a) Troposphere
b) Mesosphere
c) Ionosphere
d) Ozonosphere

26. Which of the following elements is common to all proteins and nucleic acids?
a) Sulphur
b) Magnesium
c) Nitrogen
d) Phosphorous

27. Silt has intermediate characteristics between
a) Sand and loam
b) Clay and loam
c) Loam and gravel
d) Sand and clay

28. Certified seed is produced from
a) Nucleus seed
b) Breeder seed
c) Foundation seed
d) Truthful seed

29. Seedless banana is an
a) Autotriploid
b) Autotetraploid
c) Allotriploid
d) Allotetraploid

30. Which one of the following is used to test the goodness-of-fit of a distribution?
a) Normal test
b) t-test
c) Chi-square test
d) F-test

PART – II (Subject Paper)

Multiple choice questions (No. 31 to 130). Choose the correct answer (a, b, c or d) and enter your choice in the circle (by shading with a pencil) on the OMR - answer sheet as per the instructions given on the answer sheet.

31. *Animation rurale* approach of rural development was undertaken in
a) India's arid zone
b) Francophone countries of Africa
c) Malaysia's rubber industry
d) Caico region of Brazil

32. "Communication is discriminatory response of an organism to stimulus", has been stated by
a) Berlo
b) Stevens
c) Hovland
d) Schramm

33. Which of the following is regarded as "Siamese twins" of management?
a) Planning and organising
b) Organising and controlling
c) Planning and controlling
d) Staffing and coordination

34. 'Sanskritization' is a
a) Form of grouping
b) Form of social mobility
c) Caste structure
d) Societal institution

35. An attitude developed without sufficient exploration of the facts is
a) Prejudice
b) Stereotype
c) Public opinion
d) Perception

36. Delphi technique was developed by
a) Olaf Helmer
b) Boston Consulting group
c) Edward Deming in Japan
d) Emerson at Ohio State University

37. 'Meta Evaluation' is
a) Evaluating content
b) Evaluating the evaluation
c) Evaluating product
d) Evaluating process

38. 'Pygmalion effect' is known as
a) Self-fulfilling prophecy
b) Leadership vacuum theory
c) Leader member relationship
d) Motivation effect

39. Who first gave the idea of 'folkways'?
a) Robert Redfield
b) W.G. Sumner
c) Levi-Strauss
d) Ralph Linton

40. Which one of the following is non-probability sampling?
a) Stratified sampling
b) Cluster sampling
c) Systematic sampling
d) Quota sampling

41. The term MBO was initially coined by
a) Edward Weidner
b) Montgomery
c) Peter Drucker
d) F.W. Riggs

42. 'Semantic differential' scale has been given by
a) Thurstone
b) Likert
c) Osgood
d) Chauve

43. Systematic variance leans in
a) One direction
b) Two directions
c) Three directions
d) All the directions

44. What is indicated by the Common Factor Variance of a scale?
a) Reliability
b) Validity
c) Complexity
d) Objectivity

45. Rate of adoption of an innovation depends on
a) Replacement for discontinuation
b) Attributes of the innovation
c) Government policy
d) Incentive backup

46. The author of the book 'Pedagogy of the oppressed' is
a) Paulo Freire
b) Neils Rolling
c) Robert Chambrs
d) A.T. Moser

47. When universe of content is very small, the best technique for scale construction would be
a) Paired comparison technique
b) Summated rating technique
c) Scalogram analysis technique
d) Scale discrimination technique

48. Method of Summated Rating for scale construction was proposed by
a) Thurstone
b) Edwards
c) Likert
d) Miller

49. An intervening variable is one
a) Which is a cause of independent variable
b) Which is an effect of the independent variable and a cause of dependent variable
c) Which is the effect of dependent variable
d) Which has no effect either on independent or dependent variable

50. The principle way in which scientific inquiry differs from casual observations is
a) Use of intuition
b) Reliance on observations
c) Use of control procedures
d) Use of quantitative variables

51. Variables like male-female are
a) Bivalent variables
b) Twin variables
c) Dichotomous variables
d) Interdependent variables

52. Absolute zero is a property of
a) Nominal scale
b) Ordinal scale
c) Ratio scale
d) Interval scale

53. Abstraction of the observed phenomenon, things, or events is known as
a) Concept
b) Theory
c) Hypothesis
d) Definition

54. In PERT network analysis, the difference between the Earliest Start Time (EST) and the Latest Start Time (LST) along the critical path is
a) Positive
b) Negative
c) Zero
d) Indeterminate

55. The most influential diffusion research was of
a) Hybrid corn study by Ryan & Gross
b) Drug diffusion by Coleman
c) Consequences of innovation by Sharp
d) Opinion leadership by Rogers & Van Es.

56. Compared to the agricultural technologies in the recent past, the rate of adoption has been phenomenal in
a) *Bt* cotton hybrids
b) Zero tillage
c) IPM
d) Drip irrigation

57. In the innovation-decision making process, the perceived attributes of an innovation as relative advantage, compatibility, complexity, etc. are especially important at
a) Persuasion stage
b) Decision stage
c) Knowledge stage
d) Confirmation stage

58. The tendency to interpret communication messages in terms of the individual's existing attitudes and beliefs is known as
a) Selective perception
b) Stereotype
c) Selective empathy
d) Dogmatism

59. In deductive reasoning
a) The conclusion is uncertain even if the evidence is true
b) The conclusion is absolutely certain if the evidence is true
c) The conclusion is certain even if the evidence is not true
d) The conclusion is not dependent upon the evidence

60. Case study was first employed in social science by
a) Fredrick Le Play
b) Herbert Spencer
c) Goode
d) Kerlinger

61. Which of the following is a sociometric index?
a) Choice status
b) Group cohesiveness
c) Both a) and b)
d) Choice cluster

62. When the measurement expert wants to know the "meaning of the test", he actually inquires the
a) Content validity of the test
b) Construct validity of the test
c) Criterion-related validity of the test
d) Face validity of the test

63. In interval scale
a) Quantities or amount can be added and subtracted
b) Intervals can be added and subtracted
c) Quantities as well as intervals can be added and subtracted
d) None of the above is true

64. A non-parametric test for two-way analysis of variance
a) The Friedman test
b) The Kruskal-Wallis test
c) Chi-square test
d) Median test

65. The most ubiquitous property of data in non-parametric methods is
a) Rank order
b) Continuity
c) Equal interval
d) Absolute origin

66. Survey technique of successive interviews with same sample is known as
a) Panel technique
b) Drop-off technique
c) Cohort technique
d) Mixed-mode technique

67. To provide the participants with an intensive experience of how they affect each other is the purpose of which training method?
a) Syndicate method
b) Laboratory method
c) Lecture method
d) Field method

68. Name the person associated with studies on classification of extension approaches:
a) Axinn
b) Hall
c) Chamber
d) Pretty

69. Collegial participation refers to
a) Scientists and farmers collaborate as partners in research process
b) Strengthening of farmers' informal research by scientists
c) Scientists consulting farmers and developing solutions
d) Scientists making contractual agreement with farmers for land or services

70. The book entitled "The One-Straw Revolution" is authored by
a) Jules N. Pretty
b) Vandana Shiva
c) G.R. Conway
d) Masanobu Fukuoka

71. Farmers' experimentation includes
a) Curiosity experimentation
b) Adaptation experimentation
c) Problem-solving experimentation
d) All of the above

72. Which of the following is not used for tapping indigenous technical knowledge?
a) Case histories
b) Critical incident
c) Preference ranking
d) Problem census

73. Yellow Journalism refers to
a) Reporting anti-government news
b) News items related to stock exchange
c) Use of lurid features and sensational news lacking credibility for increased circulation
d) Anti-democratic journalism

74. Entrepreneurial behaviour is exhibited by people who
a) Are high in Need for Achievement
b) Prefer decisions involving a moderate degree of risk
c) Operate under chance with no control over the outcome
d) Both a) and b)

75. Farmers' Field School was designed initially as a way to introduce
a) IPM
b) NPM
c) SRI
d) SWI

76. *Namma Dhwani* is a
a) Agricultural film
b) Community radio
c) Anti-GM protest group
d) Biofertilizer

77. In diffusion of innovations "the strength of weak-ties" was highlighted by
a) Granovetter
b) Bowers
c) Kaplan
d) Tarde

78. The power of a test is defined as
a) Probability of a type-II error
b) 1-(Probability of a type-II error)
c) 1/(Probability of a type-II error)
d) 1/(1-Probability of a type-II error)

79. Farm magazine "Prasardoot" is published from
a) ICRISAT
b) IARI
c) MANAGE
d) CRRI

80. "Mazdoor Manzil" is associated with
a) Nilokheri experiment
b) Etawah project
c) Marthandam project
d) Shantiniketan project

81. IADP laid emphasis upon
a) Concentration principle
b) Equiterian principle
c) Antodya principle
d) Farmers' First principle

82. Participatory Rural Appraisal (PRA) differs from Rapid Rural Appraisal (RRA) in its
a) Participation of a team of experts
b) Participation of people and stakeholders
c) Participation of extension professionals
d) Speed of collecting data

83. Which of the following is true?
a) Power and authority rest in position
b) Power and authority rest in person
c) Power rests in person and authority in position
d) Power rests in position and authority in person

84. The motivational theory 'Y' of management assumes that in an organization the people in general
a) Like to work
b) Do not like to work
c) Are indifferent to work
d) Try to avoid difficult work

85. According to two-factor theory of motivation, absence of hygiene will lead to
a) Satisfaction
b) Dissatisfaction
c) More satisfaction
d) Low satisfaction

86. An individual's deviation from the mean in standard deviation units is sometimes called
a) The raw score
b) Sigma
c) The percentile rank
d) The Z score

87. A researcher draws a sample by selecting every 10th name in the telephone directory. This is called
a) Simple random sampling
b) Stratified sampling
c) Cluster sampling
d) Systematic sampling

88. Theories of learning can be loosely classified by their relative emphasis on
a) Motivation and evaluation
b) Learning and instruction
c) Behaviour and cognition
d) Management and objectives

89. SONDEO relates to
a) Farmer First and Last Approach
b) Sensitivity training
c) Entrepreneurial orientation
d) Social disorganisation

90. Which of the following variables is least like the other three?
a) Years of job experience
b) Salary per month
c) Expenditure per month
d) Marital status

91. The Law of Imitation that the more similar an innovation is to those ideas that have already been accepted, the more likely the innovation is to be adopted, was given by
a) Kaplan
b) Gabriel Tarde
c) Morris, C.
d) Rogers, R.

92. Funnel is
a) A test of emotional quotient
b) A set of special type of open-end questions directed towards getting information on a single topic
c) A method of content analysis
d) A method of case analysis

93. "These are all fixed ideas in the mind and we tend to hold them true" – this notion is related to
a) Values
b) Mores
c) Taboos
d) Beliefs

94. Who gave a model containing the words – "Who says, what, which channel, to whom and what effect"?
a) Westly and Machean
b) Shannon and Warren Weover
c) Harold Hosswell
d) Schramn

95. Which element is not in Berlo's model of communication?
a) Source
b) Message
c) Signal
d) Receiver

96. What are the primary colours used in making prints, leaflets and folders?
a) Red, yellow, black
b) Red, yellow, brown
c) Red, yellow, blue
d) Red, yellow, green

97. Which one of the following is a first major effort of the Indian Council of Agricultural Research (ICAR) to strengthen the regional research capabilities of State Agricultural Universities (SAUs)?
a) NARP
b) CART
c) NATP
d) NAEP

98. Which country launched its first extension program named 'Harvest Program'?
a) Sri Lanka
b) China
c) Japan
d) Israel

99. The collection of data in PRA is done by
a) Local extension agents
b) Progressive farmers
c) Research assistants
d) A multi-disciplinary team

100. Which of the following colour combination is the most readable?
a) Red on white
b) Black on yellow
c) Green on white
d) Blue on white

101. Human eyes move in a particular pattern when one reads any visual. This is known as
a) Z movement of eyes
b) U movement of eyes
c) O movements of eyes
d) Y movement of eyes

102. Concept of fixed stages of social change was given by
a) Saint Simon
b) Auguste Comte
c) Charles Darwin
d) William F. Ogburn

103. Assignment of 'numbers to football players' is an example of
a) Ordinal measurement
b) Interval measurement
c) Nominal measurement
d) Ratio measurement

104. A conjectural statement of relationship between the variables is called
a) Research objective
b) Research theme
c) Research problem
d) Research hypothesis

105. A variable which is the presumed cause of another variable is called
a) Independent variable
b) Active variable
c) Antecedent variable
d) Intervening variable

106. Semantic differential is a technique to measure
a) Hypothesis
b) Meaning
c) Objectivity
d) Relativity

107. _____ coined POSDCORB as an acronym to describe his list of important management functions
a) Gulick
b) Fayol
c) Parkinson
d) Peter

108. National Food Security Mission (NFSM) aims to increase food grain production of the following crops
a) Rice, wheat and pulses
b) Cereals, oilseed and pulses
c) Wheat, rice and oilseeds
d) Pulses, oilseeds ad wheat

109. The sign-object relationship is related with
a) Denotative meaning
b) Structural meaning
c) Connotative meaning
d) Contextual meaning

110. Kinesics is the study of
a) Non-verbal communication
b) Body language
c) Movement
d) Verbal communication

111. Managerial grid was given by
a) Peter Drucker
b) Gantt
c) Vilfred Pareto
d) Blake and Mouton

112. Hawthorne studies were conduced by
a) Elton Mayo
b) Elton John
c) Morgan and King
d) Aristotle

113. First farm magazine in India was
a) Kisan World
b) Kheti
c) Kisan Bhai
d) Jai Jawan Jai Kisan Weekly

114. The theory of instrumental conditioning was given by
a) Robert Bolles
b) Godon Vower
c) David Hoffman
d) E.H. Thorndike

115. Thematic Apperception Test (TAT) is used to measure
a) Perception
b) Attitude
c) Motivation
d) Emotion

116. The word 'penyuluhan' is used for extension in Indonesia and it means
a) Lighting the pathway
b) Advisory work
c) Simplifying the message
d) Stimulating people

117. For a word to be considered as complex, it should have
a) More than 3 syllables
b) More than 3 vowels
c) More than 5 letters
d) Unusual and difficult to pronounce

118. 'Massagona', a successful TOT of rice crop was implemented in
a) Philippines
b) Indonesia
c) Kenya
d) Malaysia

119. What score on Flesch's reading ease scale is suitable for adult audience?
a) 50-60
b) 55-60
c) 60-70
d) 70-80

120. 'Rosarch' is a tool for _____ measurement.
a) Projective
b) Aptitude
c) Intelligence
d) Achievement

121. Texts designed for a wide audience generally require a fog index of
a) Less than 10
b) Less than 12
c) More than 10
d) More than 12

122. "Agree with reason", is the characteristic of which method of knowing or fixing belief?
a) Method of tenacity
b) a priori method
c) Method of authority
d) Method of science

123. According to _____ theory of organizations, persons are motivated primarily by economic gain and the need for security.
a) Classical theory
b) Neoclassical theory
c) Modern theory
d) Traditional theory

124. Classical theory developed in three streams: bureaucracy, administrative and _____.
a) Traditional management
b) Scientific management
c) Modern management
d) Neo-classical management

125. An alternative 'gang plank' route was suggested by Fayol in _____ principle of management.
a) Division of work
b) Scalar chain
c) Centralization
d) Order

126. Gate keeping theory was given by
a) Kurt Lewin
b) Hymes
c) Bruce Westley
d) Lazarfield

127. The first step in innovation process in an organization is
a) Matching
b) Clarifying
c) Restructuring
d) Agenda setting

128. There is/are _____ hot spots on a page.
a) Only one
b) Two
c) Three
d) Four

129. The core of intra-personal communication process is
a) Self-realisation
b) Self-actualisation
c) Self-concept
d) Self-respect

130. On August 16, 2007, the Govt. of India approved the _____ with an allocation of ₹25,000 crores for the 11th Five Year Plan.
a) National Horticulture Mission (NHM)
b) Rashtriya Kirshi Vikas Yojana (RKVY)
c) Kirshi Sharmik Suraksha Yojana
d) National Agricultural Insurance Scheme

Matching type questions (No. 131 to 140); all questions carry equal marks. Choose the correct answer (a, b, c, d or e) for each sub-question (i, ii, iii, iv and v) and enter your choice in the circle (by shading with a pencil) on the OMR - answer sheet as per the instructions given on the answer sheet.

131.

Training method	Cardinal characteristic
i) Brain storming	a) Syndicate
ii) Group discussion	b) Simulation
iii) Role play	c) To acquire analytical skill
iv) Case study	d) Ring-toss
v) Structured experiences	e) Free wheel

132.

i) Median test	a) Alternative to parametric 't' test
ii) McNemar test	b) Two independent groups differ in central tendencies
iii) Kruskal-Wallis test	c) Significance of change
iv) Kolmogorov-Smirnov test	d) One way analysis of variance by ranks
v) Mann Whitney U test	e) Test of goodness of fit

133.

Theory	Concept
i) Cannon-Bard theory	a) Group formation
ii) Vroom's expectancy theory	b) Social perception
iii) McClelland's theory	c) Leadership
iv) Attribution theory	d) Need for achievement
v) Balance theory	e) Emotion

134. Match the following tools of PRA

i) Venn diagram	a) To trace history of the village
ii) Gender disaggregated task calendar	b) To assess contact with village institutions
iii) Seasonal calendar	c) To map crop rotation
iv) Time line	d) To assess work load
v) Transect walk	e) To document socio physical aspects

135.

Level of measurement	Characteristic/Example
i) Nominal	a) a > b > c
ii) Ordinal	b) Thermometer
iii) Interval	c) Australians, Indians
iv) Ratio	d) Percentiles
v) Statistics of ordinal scales	e) Natural zero

136.

Adopter category	Percentage of population
i) Innovators	a) 16%
ii) Early adopters	b) 34%
iii) Early majority	c) 34%
iv) Late majority	d) 13.5%
v) Laggards	e) 2.5%

137.
i) DSS   a) A complete system which
                      focuses on structures, tasks and
                      routine decisions
ii) MIS   b) A complete system which
                      focuses on semi-structure tasks
                      requiring managerial judgment
iii) Synectics   c) Technique to enhance creativity
iv) Tactics   d) When organization is too large,
                      these are expected to operate
                      as if they are independent units
v) SBU   e) Action plans through which
                      strategies are executed

138.
Person	Area of work
i) Prayag Mehta	a) Planning charts
ii) Udai Pareekh	b) Human relations theory
iii) Anil Gupta	c) Organizational development
iv) Henry Gantt	d) Publication of Honey Bee
v) Elton Mayo	e) Achievement motivation

139.
i) Intensive Agriculture Area   a) 1977-78
    Programme
ii) Lab to Land Programme   b) 1960-61
iii) Integrated Rural Development   c) 1979
    Programme
iv) Green Revolution   d) 1980
v) Desert Development Programme   e) 1966-67

140.
i) Operational   a) Looks at management as
    approach   a purely logical process,
                            expressed in
                            mathematical symbols
                            and relationships
ii) Interpersonal   b) Popularized by Henery
    behaviour approach   Mintzberg
iii) Managerial   c) Based on sociology and
    approach   social psychology
iv) Management   d) Based on individual
    science approach   psychology
v) Group behaviour   e) Draws together
    approach   concepts, principles,
                            techniques and
                            knowledge from other
                            fields and managerial
                            approaches

Short questions (No. 141 to 146); each question carries FIVE marks. Write answers, including computation / mathematical calculations if any, in the space provided for each question on the question paper itself.

141. Discuss the importance and role of ICTs in Extension.

142. Discuss the advantages and limitations of public private partnership in Extension with examples.

<u>Advantages</u> : 1) Partnership make the effective and speedy communication between farmers and scientist by using wide network of govt. and specialization of private sector. 2) It provide the soil, seed testing etc. facility at village level and also provide the agri inputs directly at the door of the farmers.
3) It make the proper & strange linkage between rural people and research scientist. Ex. Hoshangabad model of M.P.
4) It increases the strength of the organization by reducing weaknesses.

<u>Limitations</u> : 1) Partnership requires more documentatia procedure. 2) It depends on the agreement of both parties. 3) Specialization of private sector. 4) Generally, it should be adopted in the areas where, all the resources and facilitie are available.

(3.75)

143. Describe the techniques for training needs assessment.

144. Discuss the elements and use of logical framework approach in program planning.

145. Describe the process and elements of creativity.

146. Discuss the different approaches in Livelihood Analysis including 'Mandala' approach.