



Post Graduate School  
Indian Agricultural Research Institute, New Delhi  
Examination for Admission to Ph.D. Programme 2013-2014

Discipline : Agricultural Economics

Discipline Code : 02

Roll No.

--	--	--	--	--	--	--	--

**Please Note:**

- (i) This question paper contains **14** 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. Who is the present Chairman of Protection of Plant Varieties and Farmers' Right Authority (PPV&FRA)?
  - a) Dr. R.R. Hanchinal
  - b) Dr. P.L. Gautam
  - c) Dr. S. Nagarajan
  - d) Dr. Swapan K. Datta
2. Which among the following is another name for vitamin B<sub>12</sub>?
  - a) Niacin
  - b) Pyridoxal phosphate
  - c) Cobalamin
  - d) Riboflavin
3. The largest share in India's farm export earning in the year 2011-12 was from
  - a) Basmati rice
  - b) Non-basmati rice
  - c) Sugar
  - d) Guar gum
4. The National Bureau of Agriculturally Important Insects was established by ICAR in \_\_\_\_\_, was earlier known as \_\_\_\_\_.
  - a) Bangalore; PDBC
  - b) New Delhi; National Pusa Collection
  - c) Ranchi; Indian Lac Research Institute
  - d) New Delhi; NCIPM
5. The most important sucking pests of cotton and rice are respectively
  - a) *Nilaparvata lugens* and *Aphis gossypii*
  - b) *Aphis gossypii* and *Thrips oryzae*
  - c) *Amrasca biguttula biguttula* and *Scirtothrips dorsalis*
  - d) *Thrips gossypii* and *Orseolia oryzae*
6. Which of the following microorganism causes fatal poisoning in canned fruits and vegetables?
  - a) *Aspergillus flavus*
  - b) *Penicillium digitatum*
  - c) *Clostridium botulinum*
  - d) *Rhizoctonia solani*
7. The cause of the great Bengal Famine was
  - a) Blast of rice
  - b) Brown spot of rice
  - c) Rust of wheat
  - d) Karnal bunt of wheat
8. Actinomycetes belong to
  - a) The fungi
  - b) Eukaryote
  - c) *Mycelia sterilia*
  - d) None of the above
9. A virus-free clone from a virus infected plant can be obtained by
  - a) Cotyledonary leaf culture
  - b) Axenic culture
  - c) Stem culture
  - d) Meristem tip culture
10. Which of the following is not an objective of the National Food Security Mission?
  - a) Sustainable increase in production of rice, wheat and pulses
  - b) Restoring soil fertility and productivity at individual farm level
  - c) Promoting use of bio-pesticides and organic fertilizers
  - d) Creation of employment opportunities

11. Agmarknet, a portal for the dissemination of agricultural marketing information, is a joint endeavour of
  - a) DMI and NIC
  - b) DMI and Ministry of Agriculture
  - c) NIC and Ministry of Agriculture
  - d) DMI and Directorate of Economics and Statistics
12. The share of agriculture and allied activities in India's GDP at constant prices in 2011-12 was
  - a) 14.1%
  - b) 14.7%
  - c) 15.6%
  - d) 17.0%
13. The average size of land holding in India according to Agricultural Census 2005-06 is
  - a) 0.38 ha
  - b) 1.23 ha
  - c) 1.49 ha
  - d) 1.70 ha
14. 'Farmers First' concept was proposed by
  - a) Paul Leagans
  - b) Neils Rolling
  - c) Robert Chamber
  - d) Indira Gandhi
15. In the year 2012, GM crops were cultivated in an area of
  - a) 150 million hectare in 18 countries
  - b) 170 million hectare in 28 countries
  - c) 200 million hectare in 18 countries
  - d) 1.70 million hectare in 28 countries
16. The broad-spectrum systematic herbicide glyphosate kills the weeds by inhibiting the biosynthesis of
  - a) Phenylalanine
  - b) Alanine
  - c) Glutamine
  - d) Cysteine
17. At harvest, the above ground straw (leaf, sheath and stem) weight and grain weight of paddy crop are 5.5 and 4.5 tonnes per hectare, respectively. What is the harvest index of paddy?
  - a) 45%
  - b) 50%
  - c) 55%
  - d) 100%
18. Crossing over between non-sister chromatids of homologous chromosomes takes place during
  - a) Leptotene
  - b) Pachytene
  - c) Diplotene
  - d) Zygotene
19. The term 'Heterosis' was coined by
  - a) G.H. Shull
  - b) W. Bateson
  - c) T.H. Morgan
  - d) E.M. East
20. When a transgenic plant is crossed with a non-transgenic, what would be the zygosity status of the F<sub>1</sub> plant?
  - a) Homozygous
  - b) Heterozygous
  - c) Hemizygous
  - d) Nullizygous
21. The highest per capita consumption of flowers in the world is in
  - a) The USA
  - b) India
  - c) Switzerland
  - d) The Netherlands
22. Which of the following is a very rich source of betalain pigment?
  - a) Radish
  - b) Beet root
  - c) Carrot
  - d) Red cabbage
23. Dog ridge is
  - a) Salt tolerant rootstocks of mango
  - b) Salt tolerant rootstocks of guava
  - c) Salt tolerant rootstocks of grape
  - d) Salt tolerant rootstocks of citrus
24. Which of the following micronutrients are most widely deficient in Indian soils?
  - a) Zinc and boron
  - b) Zinc and iron
  - c) Zinc and manganese
  - d) Zinc and copper
25. Which of the following fertilizers is not produced in India?
  - a) DAP
  - b) Urea
  - c) Muriate of potash
  - d) TSP
26. What is the estimated extent of salt affected soils in India?
  - a) 5.42 mha
  - b) 7.42 mha
  - c) 11.42 mha
  - d) 17.42 mha
27. Which of the following is not a feature of watershed?
  - a) Hydrological unit
  - b) Biophysical unit
  - c) Socio-economic unit
  - d) Production unit

28. Correlation coefficient 'r' lies between  
 a) 0 and 1  
 b) -1 and 1  
 c) -1 and 0  
 d) 0 and  $\infty$
29. For the data 1, -2, 4, geometric mean is  
 a) 2  
 b) 4  
 c)  $-\frac{7}{3}$   
 d) -2
30. The relationship between Arithmetic mean (A), Harmonic mean (H) and Geometric mean (G) is  
 a)  $G^2=AH$   
 b)  $G=\sqrt{A+H}$   
 c)  $H^2=GA$   
 d)  $A^2=GH$

### 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. The endogenous growth model predicts  
 a) An accelerating rate of economic growth because technological progress is subject to increasing returns  
 b) A stable economic growth because the rate of technological change is constant  
 c) A decreasing rate of economic growth because of the law of diminishing returns  
 d) An accelerating rate of economic growth because of an increasing capital/output ratio
32. Assume 'B' is social benefits, 'C' is social costs, 'r' is the social discount rate, 't' is time, and 'T' is the life of the investment project. The net present value (V) of the stream of benefits and costs is  
 a)  $V = \sum_{t=0}^T \frac{C_t - B_t}{(1+r)^t}$   
 b)  $V = \sum_{t=0}^T \frac{B_t - C_t}{(1+r)^t}$   
 c)  $V = \sum_{t=0}^T \frac{B_t - C_t}{(C_t)^t}$   
 d)  $V = \sum_{t=0}^T \frac{(1+r)^t}{B_t - C_t}$

33. If A, B, C and D are four baskets of goods, and if the consumer has ranked them so that D is preferred to C, A is not preferred to B and B is not preferred to C, then  
 a) A is preferred to C  
 b) A is preferred to D  
 c) B is preferred to D  
 d) D is preferred to A
34. Simultaneous equilibrium in the money (LM) and goods (IS) market exists  
 a) At only one output level and rate of interest  
 b) At an unlimited number of output levels and rates of interest  
 c) At an unlimited number of output levels and only one rate of interest  
 d) At only one output level and an unlimited number of rates of interest
35. Given the list below, all of the following will cause the demand curve to shift to the left except  
 a) A reduction in consumer income if the good is normal  
 b) An increase in the price of a substitute good  
 c) An increase in the price of a complementary good  
 d) An increase in income if the good is inferior
36. In a world with only two commodities (X and Y) and money (M), total utility is maximized by a consumer when  
 a)  $MU_X/P_Y = MU_Y/P_X = MU_M/P_M$   
 b)  $MU_X/MU_Y = P_Y/P_X$   
 c)  $MU_X/P_X = MU_Y/P_Y = MU_M/P_M$   
 d)  $MU_X = MU_Y = MU_M$
37. Other things constant, an improvement in overall technology that allows more output to be produced with the same level of input causes  
 a) A movement up and along the supply curve, resulting in both a higher equilibrium price and quantity  
 b) A leftward shift of the supply curve so that less is offered for sale at every price  
 c) No movement of the supply curve but a fall in price and an increase in the quantity demanded  
 d) A rightward shift of the supply curve so that more is offered for sale at every price
38. Economic growth from current year (C) to previous year (P) is given by  
 a)  $[(GDP_C - GDP_P) / GDP_P] \times 100$   
 b)  $[(GDP_C - GDP_P) \times GDP_P] \times 100$   
 c)  $GNP_C - (GDP_P \times 100)$   
 d)  $[GDP_P - GDP_C] \times 100$

39. The relationship between all possible inputs and the level of a firm's output are summarized in a
- Input/output matrix
  - Production possibilities frontier
  - Production function
  - Total product curve
40. Price elasticities of demand tend to be larger
- For necessities than for luxuries
  - When producers have good alternatives available
  - The higher are the opportunity costs of production
  - The larger are the number of uses for a good
41. The total product curve may initially show output increasing at an increasing rate as more labour is hired because of the
- Declining quality of labour force
  - Principle of comparative advantage
  - Law of diminishing marginal returns
  - Increase in marginal physical product
42. Increases in real GNP per capita occur when
- The rate of growth of real GNP is greater than the rate of growth of population
  - Tariffs and quotas prevent countries from trading and thus prevent dollars from leaving the country
  - Government programs direct resources away from investment goods to consumer goods
  - The level of consumption expenditures rises relative to the level of saving
43. A country's capital stock is the
- Approximated investment minus actual investment
  - Inflow of investment from abroad
  - Sum of previous gross investment minus depreciation
  - Difference between GDP and capital consumption
44. Which of the following pairs is the solution to the Linear Programming problem?  
 $\max X_1 + X_2$  subject to  $\begin{cases} X_1 + 2X_2 \leq 7 \\ 3X_1 + X_2 \leq 6 \end{cases}, X_1, X_2 \geq 0$
- $(X_1, X_2) = (2, 0)$
  - $(X_1, X_2) = (0, 7/2)$
  - $(X_1, X_2) = (2, 3)$
  - $(X_1, X_2) = (1, 3)$
45. The profit maximizing criteria from the input usage point of view in a production function is given by
- $MVP_X > MIC$
  - $MVP_X < MIC$
  - $MVP_X = MIC$
  - $MC = MR$
46. As long as all prices remain constant, an increase in money income results in
- An increase in the slope of the budget line
  - A decrease in the slope of the budget line
  - An increase in the intercept of the budget line
  - A decrease in the intercept of the budget line
47. Which of the following does not increase output?
- An increase in the supply of labour, ceteris paribus
  - There is a technological advance, ceteris paribus
  - Government imposes new environmental laws, ceteris paribus
  - There are improved methods for managing economic resources, ceteris paribus
48. A tax increase \_\_\_\_\_ disposable income, \_\_\_\_\_ consumption expenditure and shifts the IS curve to the \_\_\_\_\_.
- Decreases; decreases; left
  - Increases; decreases; left
  - Decreases; increases; left
  - Decreases; decreases; right
49. The  $MU_X/MU_Y$  is ten and the  $P_X/P_Y$  is eight, so the consumer should buy
- Less X and less Y
  - More X and less Y
  - More X and more Y
  - Less X and more Y
50. Mutual interdependence means that
- Each firm produces a product similar but not identical to the products produced by its rivals
  - Each firm produces a product identical to the products produced by its rivals
  - Each firm must consider the reactions of its rivals when it determines its price policy
  - Each firm faces a perfectly elastic demand for its product
51. Changes in the interest rate affect planned investment spending and hence the equilibrium level of output
- But this change in investment spending merely causes a movement along the IS curve and not a shift
  - But this change in investment spending is crowded out by higher taxes
  - But this change in investment spending is crowded out by higher government spending
  - But this change in investment spending is crowded out by lower consumer expenditures

52. An indifference curve shows all the alternative combinations of two consumption goods that
- Can be produced with a given set of resources and technology
  - Yield the same total of utility
  - Can be purchased with a given budget at given prices
  - Equate the marginal utilities of these goods and therefore make the consumer indifferent between them
53. In the short run, a profit maximizing monopolistically competitive firm will incur an economic loss because
- MC > MR
  - ATC > P
  - ATC > AVC
  - MC > ATC
54. \_\_\_\_\_ results if you fail to reject the null hypothesis when the null hypothesis is actually false.
- Type I error
  - Type II error
  - Type III error
  - Type IV error
55. Given:  $C=50+0.5Y$ ;  $I=80$ ;  $G=100$ . The equilibrium level of income is
- 230
  - 360
  - 460
  - 560
56. A statistical test used to determine whether a correlation coefficient is statistically significant is called the
- One-way analysis of variance
  - Chi-square test for contingency tables
  - t-test for independent samples
  - t-test for correlation coefficients
57. Find the value of 'a' if the following matrix is singular
- $$\begin{pmatrix} -4 & 2 \\ -6 & a \end{pmatrix}$$
- 3
  - $-\frac{1}{3}$
  - $\frac{1}{3}$
  - 3
58. The government wishes to expand the demand for wind energy by 10% and estimates the price elasticity of demand for wind energy to be (-)2. The government should grant a subsidy sufficient to reduce the price of wind energy by
- 2%
  - 5%
  - 10%
  - 20%
59. If the consumption function is given by the equation  $C=500+0.5Y$ , the production function is  $Y=50K^{0.5}L^{0.5}$ , where  $K=100$  and  $L=100$ , then 'C' equals
- 1000
  - 2500
  - 3000
  - 5000
60. Which of the following would not allow you to calculate a correlation?
- A negative relationship between X and Y
  - A positive relationship between X and Y
  - A curvilinear relationship between X and Y
  - A linear relationship between X and Y
61. \_\_\_\_\_ is a numerical characteristic of a sample and a \_\_\_\_\_ is a numerical characteristic of a population.
- Sample; population
  - Population; sample
  - Statistic; parameter
  - Parameter; statistic
62. What is an empirically validated finding related to the classic theories of development economics?
- A constant relation between capital and output (also called ICOR)
  - More savings and investment is a necessary condition for growth
  - Surplus rural labour
  - Rejection of market forces and trade boosts growth
63. A farmer who prefers to produce all his crop under contract would be considered
- Risk averse
  - Risk neutral
  - Risk loving
  - Risk indifferent
64. Narsimham Committee was related to
- Higher education reforms
  - Tax scheme reforms
  - Banking structure reforms
  - Planning implementation reforms
65. When interpreting a correlation coefficient expressing the relationship between two variables, it is very important to avoid
- Checking the strength of relationship
  - Jumping to the conclusion of causality
  - Checking the direction of the relationship
  - Expressing a relationship with a correlation coefficient

66. A farmer buys a new seed drill for ₹40,000 and expects to use for 20 years, after which the seed drill will have a salvage value of ₹10,000. What is the straight line depreciation that can be taken for the first year of ownership?
- ₹1,500
  - ₹1,669
  - ₹2,500
  - ₹2,520
67. The estimated benefits from a project are expressed as cash flows instead of income flows because
- It is simpler to calculate cash flows than income flows
  - It is cash, not accounting income, that is central to the firm's capital budgeting decision
  - This is required by the revenue service
  - This is used for impact evaluation
68. The neoclassical growth model
- Explains technological progress by the ever-falling costs of innovation
  - Postulates a given rate of technological progress
  - Implies an increasing rate of technological progress
  - Assumes a decreasing rate of technological progress
69. The marginal revenue curve of a monopolistically competitive firm is
- Below the demand curve for its product
  - Above the demand curve for its product
  - The same as the demand curve for its product
  - Perpendicular to the demand curve
70. If the international terms of trade settle at a level that is between each country's opportunity cost
- There is no basis for gainful trade for either country
  - Both countries gain from trade
  - Only one country gains from trade
  - One country gains and the other country loses from trade
71. The movement to free international trade is most likely to generate short-term unemployment in which industries?
- Industries in which there are neither imports nor exports
  - Import-competing industries
  - Industries that sell to domestic and foreign buyers
  - Industries that sell to only foreign buyers
72. One of the disadvantages of cooperatives is
- Inclusive and open membership
  - Democratic member control
  - Longer decision making process
  - Collective action
73. A mechanism that illustrates distribution variance is the
- Dispersion/diffusion ratio
  - Lorenz curve
  - Wage/price index
  - Poverty line
74. The earliest statement of the principle of comparative advantage is associated with
- Adam Smith
  - Eli Heckscher
  - Bertil Ohlin
  - David Ricardo
75. Which of the following describes an enterprise budget?
- A plan for producing an agricultural commodity showing the costs and returns, resources used, and yield for production unit of the commodity
  - A plan for organising a farm for growing a particular enterprise
  - A budget showing changes in cost and returns resulting from a change in a farm plan
  - A plan for financing the production of an enterprise
76. Nerlove's model is based on
- Principle of absolute advantage
  - Principle of comparative advantage
  - Habit creation principle
  - Stock adjustment principle
77. The necessary conditions for the implementation of price discrimination are the market must be divided into sub-market with
- Same price elasticities and effective separation of the sub-markets
  - Same price elasticities and no effective separation of the sub-markets
  - Different price elasticities and effective separation of the sub-markets
  - Different price elasticities and no effective separation of the sub-markets
78. If you know that with 8 units of output, average fixed cost is ₹12.50 and average variable cost is ₹81.25, then total cost at this output level is
- ₹93.75
  - ₹97.78
  - ₹750
  - ₹880

79. Which of the following statements describes increasing returns to scale?
- Doubling the inputs used leads to double the output
  - Increasing the inputs by 50% leads to a 25% increase in output
  - Increasing the inputs by  $\frac{1}{4}$  leads to an increase in output by  $\frac{1}{3}$
  - Increasing the inputs by  $\frac{1}{2}$  leads to an increase in output by  $\frac{1}{2}$
80. According to Chamberlin, the products categorized in the 'Product Group' should have
- High price and cross elasticities
  - High price and low cross elasticities
  - Low price and high cross elasticities
  - Low price and cross elasticities
81. A primary reason why nations conduct international trade is because
- Some nations prefer to produce one thing while others produce another
  - Resources are not equally distributed among all trading nations
  - Trade enhances opportunities to accumulate profits
  - Interest rates are not identical in all trading nations
82. Which of the following is the preferred instrument of environment policy?
- Regulation
  - Voluntary agreements
  - Market based instruments
  - Informal management standards
83. The number of units of commodity 'y' that must be given up in exchange for an extra unit of commodity 'x' so that the consumer maintains the same level of satisfaction is
- Elasticity of substitution
  - Marginal rate of substitution of 'x' for 'y'
  - Marginal rate of substitution of 'y' for 'x'
  - Elasticity of demand
84. The Reports of the Task Force on the Revival of Short-term and Long-term Cooperative Credit Structure is based on
- Vaidyanathan Committee
  - Vyas Committee
  - Narsimham Committee
  - Tendulkar Committee
85. Amortization is the
- Receipt of a series of uniform payments over a specified period of time
  - Repayment of a loan and the interest due with a series of differential payments over a specified period of time
  - Receipt of a series of different level of payments at different points of time
  - Repayment of a loan and the interest due with a series of equal payments over a specified period of time
86. Solvency can be achieved when a farmer has
- Sufficient current assets to cover current debts
  - Sufficient equity to cover current debts
  - Sufficient assets to cover all debts
  - A positive cash flow
87. In preparing a cash flow plan, one should not include which of the following expense items?
- Principal payment on long term debt
  - Cash paid for machinery purchases
  - Machinery depreciation
  - Family living and other non-farm expenses
88. Macro Management of Agriculture (MMA) Scheme was revised in 2008 to
- Improve its efficacy in supplementing/ complementing the efforts of the states towards enhancement of agricultural production and productivity
  - Obtain an additional production of rice, wheat and pulses
  - Enhance public investment and improve growth rate in agriculture and allied sectors
  - Enhance food security and protection of resources such as land, water, biodiversity and genetic resources
89. Which of the following is not a consideration in determination of economic size of holding?
- Method of cultivation
  - Fertility of the soil
  - Nature of crops grown
  - Ownership/tenancy status
90. Which of the following is not a liquidity ratio?
- Current ratio
  - Acid test ratio
  - Debt-equity ratio
  - Bank finance to working capital gap ratio
91. Market structure may be defined as
- The size of the market
  - The physical layout of the market
  - Organizational characteristics of the market affecting the nature of competition, pricing and conduct of firms
  - Market sharing and price setting policies

92. Suppose we have a matrix with four rows ( $m=4$ ). It may be that rows 1, 2 and 4 form a linearly independent set and that rows 1, 3 and 4 also form a linearly independent set, but that all four rows are linearly dependent. Then the rank of the matrix will be
- 1
  - 2
  - 3
  - 4
93. "Choice of Techniques" was written by
- Amartya Sen
  - John Rawls
  - Arthur Lewis
  - Gunnar Myrdal
94. In the second stage of law of diminishing returns, the elasticity of production ( $E_p$ ) is
- $E_p > 1$
  - $E_p < 1$
  - $E_p = 0$
  - $E_p < 0$
95. The line connecting the point of tangency of production possibility curve with the iso-revenue lines is termed as
- Expansion path
  - Ridge line
  - Iso-cline
  - Isoquant
96. When the elasticity of demand of a product is less than the elasticity of its supply, it results in Cobweb phenomena of the following type
- Perpetual oscillation
  - Damped oscillation
  - Explosive oscillation
  - Initially perpetual and then damped
97. The type of isoquant which represents perfect substitutability of factors of production is
- Leontief isoquant
  - Convex isoquant
  - Linear isoquant
  - Kinked isoquant
98. Which of the following is not an assumption of the theory of revealed preference?
- A cardinal measure of utility
  - Consistency
  - Transitivity
  - A consumer can be induced to purchase any basket of commodities if its price is made sufficiently attractive
99. The necessary and sufficient condition for finding minima of a function  $y=f(x)$  is
- $dy/dx < 0$  and  $d^2y/dx^2 > 0$
  - $dy/dx > 0$  and  $d^2y/dx^2 > 0$
  - $dy/dx < 0$  and  $d^2y/dx^2 < 0$
  - $dy/dx = 0$  and  $d^2y/dx^2 > 0$
100. Labour deepening technical progress increases the marginal productivity of labour ( $MP_L$ )
- Faster than the marginal productivity of capital ( $MP_K$ )
  - Slower than the marginal productivity of capital ( $MP_K$ )
  - At the same rate as the marginal productivity of capital ( $MP_K$ )
  - Initially faster and then slower than the marginal productivity of capital ( $MP_K$ )
101. Which of the following is the correct formula for consumer surplus?
- Consumer surplus = Total utility - Marginal utility
  - Consumer surplus = Total utility - (Average utility  $\times$  Units consumed)
  - Consumer surplus = Total utility - (Marginal utility  $\times$  Units consumed)
  - Consumer surplus = (Total utility / Marginal utility)  $\times$  (Units consumed)
102. If the inputs in a homogenous production function of degree 2 are increased three times, the output will increase by
- One time
  - Two times
  - Six times
  - Nine times
103. What is  $x$  called in  $x = \frac{C}{R}$ , where  $C$  and  $R$  are investment and expected annual returns from investment, respectively
- Net present value
  - Internal rate of return
  - Cost-benefit ratio
  - Pay back period
104. Central Agmark Laboratory is located at
- Mumbai
  - Kolkatta
  - Cochin
  - Nagpur
105. Sample respondents from the population at a fixed class interval is known as
- Random sampling
  - Systematic sampling
  - Quota sampling
  - Stratified sampling
106. In a linear regression model, if the assumption of constant variance of the disturbance term is violated, it is a problem of
- Multi-collinearity
  - Heteroscedasticity
  - Autocorrelation
  - Simultaneous equation bias

107. 'Barometric' price leadership theory states that in an oligopoly,
- One firm sets the price and others follow it because they want to avoid uncertainty about their competitors' reaction, even if they have to move away from a profit maximizing position
  - A firm with the lowest cost will charge a lower price which will be followed by the high cost firm even if it does not maximize the followers' profits
  - The price set by a large dominant firm, which has a high market share, will be followed by smaller firms, each having a small market share
  - All firms follow the changes of the price of a firm which is considered to have a good knowledge of the prevailing market conditions and can forecast better than others the future development in the market
108. When nominal GDP is Rs.1100 billion and real GDP is Rs.1000 billion, the GDP deflator is
- 1.11
  - 9.09
  - 90.91
  - 110
109. Who was the first to use indifference curve analysis for measurement of consumers surplus?
- G.J. Stigler
  - A.C. Pigou
  - J.R. Hicks
  - P.A. Samuelson
110. A monopolist will maximise his profits by producing the level of output where
- Profit per unit is the greatest
  - Total revenue is maximised
  - Marginal revenue is maximised
  - It maximises the difference between total cost and total revenue
111. Economic rent is
- The difference between the income received on account of land in question and the income receivable on account of marginal land
  - The amount received over and above the transfer earnings of the land
  - The payment that will just induce the land in question to be put into use in the particular industry
  - None of the above
112. The prices that one should use in drawing up farm plans are
- Farm harvest prices
  - Wholesale prices
  - Procurement prices
  - Expected prices
113. The value of the expenditure multiplier relates
- The change in income to the change in autonomous spending
  - The change in autonomous spending to the change in income
  - The change in consumption to the change in income
  - The change in income to the change in consumption
114. The necessary and sufficient condition for a good to have a positively sloped demand curve is that
- The good be inferior
  - The substitution effect exceed the income effect
  - The income effect exceed the substitution effect
  - The good be inferior and the income effect exceed the opposite substitution effect
115. The Phillips curve shows that
- High unemployment rates are associated with low rate of inflation
  - High unemployment rates are associated with high rate of inflation
  - High unemployment rates are associated with large increase in money wage
  - High inflation rates are associated with small increase in money wage
116. Fiscal policies are highly effective in
- Keynesian range of LM curve
  - Classical range of LM curve
  - Intermediate range of LM curve
  - Both in Keynesian and classical ranges
117. The society specifically organized by Government of India in tribal areas of the country is known as
- PACS
  - FSS
  - LAMPS
  - DIR
118. An open market purchase of securities by the government will cause
- The interest rate to fall
  - A decrease in the quantity of money demanded
  - A shortage of money at the original equilibrium interest rate
  - No change in economy
119. According to Keynes, the marginal efficiency of capital is the expected
- Profit from a real investment
  - Profit from a financial investment
  - Rate of return from a real investment
  - Rate of return from a financial investment

120. Slutsky keeps real income constant when the price of a commodity falls by
- Keeping the consumer on the same indifference curve
  - Pushing the consumer to a lower indifference curve
  - Allowing the consumer to purchase the same basket of goods as before the price change
  - Allowing the consumer to purchase more of both commodities before the price change
121. In case of small and marginal farmers marketed surplus in general is
- Greater than marketable surplus
  - Equal to marketable surplus
  - Less than marketable surplus
  - Equal to total production
122. Zamindari system was introduced in
- 1793
  - 1820
  - 1857
  - 1905
123. Which is Gossen's first law?
- The law of demand
  - The law of supply
  - The concept of consumer surplus
  - The law of equi-marginal utility
124. The pattern of behaviour of firms in relation to pricing and their practices is called
- Market conduct
  - Market performance
  - Market integration
  - Market function
125. The Agricultural Produce Grading and Marketing Act was passed during the year
- 1927
  - 1937
  - 1942
  - 1945
126. In the classical model, it is always true that there will be full employment because
- Workers will bid wages downwards if necessary
  - Wages are sticky
  - Employers set wages
  - Unions and employers have equal bargaining strength
127. If a sequence has M numbers, then in a moving average of order N there will be
- M+N numbers
  - M-N numbers
  - M-N+1 numbers
  - M+N-1 number

128. The presence of multicollinearity between the explanatory variables is detected by
- D-W test statistics
  - Farrar-Glauber test
  - Coefficient of multiple determination
  - Chi-square test

129. Production functions homogeneous of degree one have
- Constant marginal cost
  - Increasing marginal cost
  - Decreasing marginal cost
  - Both increasing and decreasing marginal cost

130. Hedging is a trading technique of transferring the
- Weather risk
  - Production risk
  - Price risk
  - Financing risk

**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.
- |   |                                   |
|---|-----------------------------------|
| i) The fraction of a change in income that will be spent by households                                  | a) Investment                     |
| ii) The total amount the economy plans to spend in a given time period                                  | b) Consumption function           |
| iii) The relationship between consumption spending and income   | c) Marginal propensity to consume |
| iv) The purchase by firm of new buildings, equipment and inventories that add to their stock of capital | d) Marginal propensity to save    |
| v) The fraction of a change in income that will be saved by households                                  | e) Planned aggregate expenditure  |

132.

- i) The ratio at which a country can trade domestic products for imports a) Trade deficit
- ii) The quantity and quality of resources owned by a country b) Balance of payments
- iii) The situation when a country's imports exceeds its exports c) Balance of trade
- iv) The record of a country's transaction in goods, services and assets with the rest of the world d) Terms of trade
- v) Merchandise exports minus merchandise imports e) Factor endowments

133.

- i) The principle of equal marginal productivities per rupee is met a) Economics of scale
- ii) Increases output with a given set of resources b) Short run
- iii) Long run average cost curve falls as output grows c) Production function
- iv) At least one factor or cost cannot be altered d) Least cost production
- v) Relationship between inputs and outputs e) Technological change

134.

- i) Lorenz curve a) Similarly productive workers are paid different wages
- ii) Poverty line b) A statistical measure of income concentration
- iii) Economic discrimination c) A graph used to depict inequality
- iv) Gini index d) Measures a person's divergence from median income
- v) Relative income e) Based on the income required to sustain a minimal standard of living

135.

- i) The rate of growth of a cash outlay overtime depends primarily on a) Capital
- ii) Discounting income is the procedure for determining the present value of b) Farming
- iii) Net operating income is computed by subtracting the operational expenses from c) Interest rate
- iv) Capital turnover ratio is calculated by dividing the gross income by d) Gross income
- v) Farm management is the study of business principles in e) Future income

136.

- i) Period of production a) Samuelson
- ii) Life cycle theory b) Friedman
- iii) Permanent income hypothesis c) Modigliani
- iv) Residual factor d) Bohm-Bawerk
- v) Revealed preference e) Solow

137.

- i)  $1 - \frac{6\Sigma D^2}{n(n^2-1)}$  a) Karl Pearson's correlation coefficient
- ii)  $\frac{\sigma}{\bar{X}} \times 100$  b) Homoscedasticity
- iii)  $\Sigma xy / \sqrt{\Sigma x^2 \Sigma y^2}$  c) Rank correlation coefficient
- iv)  $\text{Var}(u_i) = \sigma u_i^2$  d) Coefficient of variation
- v)  $(1/n) \Sigma |x_i - \bar{x}|$  e) Mean deviation

138.

- i) Neo-classical theory of economic growth a) Leibenstein
- ii) Big-push theory of economic development b) J.H. Boeke
- iii) Critical minimum effort thesis c) Rosenstein Rodan
- iv) Social dualism d) L. Walras
- v) General equilibrium e) Meade

139.

- i) Factor-Product relationship a) Factor substitution
- ii) Factor-Factor relationship b) Lagrangian multiplier
- iii) Product-Product relationship c) Physical input-output relationship
- iv) Constraint relationship d) Production possibility curve
- v) Zero marginal rate of substitution e) Ridge lines

140.

- i) Measure of central tendency a) Non-parametric
- ii) Standard deviation b) Asymmetric
- iii) Frequency curve c) Student's 't' test
- iv) W.S. Gosset d) Weighted mean
- v) Run test e) Measure of dispersion

**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. Explain why real GDP is the preferred measure of production?

142. Is cooperative credit sector by and large successful in India? Identify the problems and constraints encountered in the cooperatives and give suggestions to revive their performance.

143. State three innovative marketing channels/models for handling agricultural produces and highlight the key points in each channel with respect to advantages over the conventional ones.

144. A firm under perfect competition is a price taker. Does it mean that price never changes in a perfectly competitive market? Why do firms have to sustain losses during the short period while in the long period normal benefits must accrue to them in a state of perfect competition?

145. How do tariff and non-tariff barriers impact trade? Explain various kinds of non-tariff barriers.

146. Discuss briefly the major reforms proposed under the Model APMC Act 2003.