

Entrance Examination -2025

Ph.D. ECONOMICS

Time: 2 Hours

Max. Marks: 70

HALL TICKET NUMBER

Instructions

1. Read these Instructions carefully before answering.
2. Enter your Hall Ticket Number on this page and also on the OMR answer sheet.
3. Answers are to be marked on the OMR answer sheet following the instructions provided thereon.
4. Handover the OMR answer sheet at the end of the examination.
5. Use of a non-programmable calculator is allowed.
6. This question paper consists of 70 questions, divided into two parts: *Part A* and *Part B*, with 35 questions each. In the event of a tie in the total marks obtained, the marks secured in Part A will be used to determine the merit rank.
7. Each correct answer carries one mark. There is no negative marking.
8. Answering more than one option would invalidate the answer.
9. The question paper contains 16 pages, including the cover page and 2 pages for rough work.

Part A

1. Cluster sampling is most useful when:
 - A. The population is homogeneous
 - B. A complete list of the population is not available
 - C. Every unit has an equal chance of selection
 - D. The population size is very small
2. What statistical test is most appropriate for comparing the means of two independent groups?
 - A. Chi-square test
 - B. Paired t-test
 - C. Independent samples t-test
 - D. ANOVA
3. The p-value in hypothesis testing represents:
 - A. The probability that the null hypothesis is true
 - B. The probability of making a Type II error
 - C. The critical value of the test statistic
 - D. The strength of evidence against the null hypothesis
4. A researcher wants to determine the sample size needed to estimate a population mean within ± 2 units with 95% confidence and a standard deviation of 8. What is the minimum required sample size?
 - A. 16
 - B. 64
 - C. 100
 - D. 121
5. Triangulation in research refers to:
 - A. Using a statistical method
 - B. Using three supervisors for one research
 - C. Using multiple methods or data sources to validate findings
 - D. Using triangular diagrams for data analysis
6. Which of the following assumptions of mainstream economics did the study of Hall R and Hitch C (1939), based on their empirical study of industries, challenge?
 - A. Predatory pricing
 - B. Marginal Cost Pricing
 - C. Average Cost Pricing
 - D. Limit Pricing
7. Which of the following fallacies does the Keynesian paradox of thrift draw from?
 - A. Fallacy of Populace
 - B. Strawman Fallacy
 - C. Fallacy of Red herring
 - D. Fallacy of Compositions
8. A rare event that unexpected, and consequential event which is difficult to predict, hence only retrospectively explained, is known as:
 - A. Occam's Event
 - B. Black dog event
 - C. Black Swan event
 - D. Hamburg paradox

9. Positive Economics draws its inferences from
- Values and Ethics
 - Facts and logic
 - Facts and Values
 - Ethics and Facts
10. Which of the following economic concepts is not empirically testable?
- Theory of Perfect Competition
 - Interest inelasticity of investment
 - Crowding out hypothesis
 - Tax buoyancy
11. _____ is a component of a paradigm that addresses the question of whether all knowledge is derived from the senses or whether some knowledge is derived from logic.
- Ontology
 - Epistemology
 - Axiology
 - Methodology
12. Three statements are given, followed by three conclusions. Read all the conclusions and decide which of the given conclusions logically follows from the three given statements, disregarding commonly known facts.
- Statements:
- All fishes are bones
 - No bone is a dog
 - All cats are dogs
- Conclusions:
- Some bones are fishes
 - No dog is a fish
 - No cat is a bone
- Only I and III follow
 - Only I and II follow
 - Only II and III follow
 - I, II and III follow
13. Using numbers from 0 to 9, the number of 5-digit telephone numbers that can be formed is:
- 1,00,000
 - 59,049
 - 3439
 - 6561
14. If an unbiased coin is tossed 1000 times such that outcome of Heads-to-Tails is in the ratio of 3:2 (that is, 600 hundred times Heads and 400 times Tails) then what will be the prior expected probability of getting Heads for the unbiased coin if it is tossed another 1000 times (note that you are neither a Bayesian nor a Frequentist)
- Probability of getting heads: 0.6
 - Probability of getting heads: 0.5
 - Probability of getting heads: 0.4

- D. Probability of getting heads: Not known
15. Which of the following includes a summary and/or evaluation of each of the sources one has used for researching a topic?
- Bibliography
 - References
 - Annotated Bibliography
 - Citations
16. The following three statements are given based on the production data of foodgrains in India shown in the diagram.

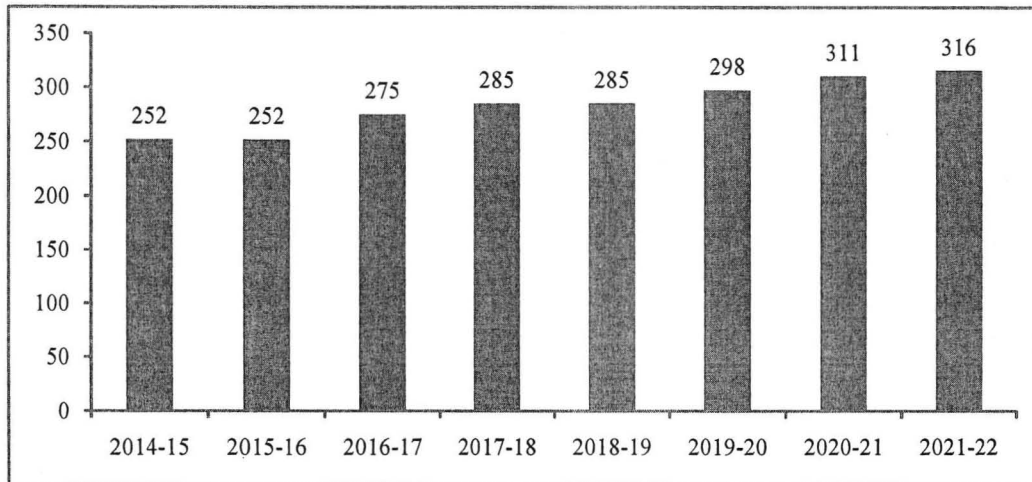


Diagram: Production of Foodgrains in India during 2014-15 to 2021-22 (in million tonnes)

Source: Compiled from <https://www.indiabudget.gov.in/economicsurvey/>

Main Source: ES & E Division, Department of Agriculture and Farmers Welfare, Govt of India

- On average, production of foodgrain in India has been increasing over time from 2014-15 to 2021-22.
- Foodgrain production in India increased by about 11 percentage points in 2021-22 compared to 2017-18.
- Foodgrain production in India remained constant during 2017-18 to 2018-19.
- Foodgrain production in India remained constant during 2016-17 to 2017-18.

Which one of the following is correct?

- Statements (i), (ii), and (iii) are correct.
- Only statement (iv) is correct
- Only statements (i) and (iv) are correct
- All four statements are wrong

17. Read the following paragraphs in BOX-1 and answer question 17.

BOX-1:

Instead of enumerating all the sampling units in the selected clusters, one can obtain better and more efficient estimates by resorting to sub-sampling within the clusters. The technique is called 'two-stage sampling'. Clusters being termed as 'primary units' and the units within the clusters as 'secondary units'. The above technique may be generalized to what is called X sampling. As the name suggests, X sampling refers to a sampling technique which is carried out in various stages. Here, the population is regarded as made of a number of primary units, each of which is further composed of a number of secondary stage units and so on, till we ultimately reach the desired sampling unit in which we are interested. For example, if we are interested in obtaining a sample of, say, n households from Telangana State of India, the first stage units may be districts of Telangana, the second stage units may be villages in the districts and third stage units will be households in the villages. Each stage thus results in a reduction of the sample size. The X sampling is more flexible as compared to other methods of sampling. The most practical advantage of X sampling is that we need the second stage frame only for those units which are selected in the first stage sample and this leads to great saving in operational cost.

In BOX-1, what is the name for X in sampling methods?

- A. Cluster
 - B. Multistage
 - C. Stratified Random
 - D. Quota
18. Although specially designed to handle over-identified equations, the 2SLS method can also be applied to exactly identified equations. In that case,
- A. The 2SLS will give multiple estimates of parameters in the model.
 - B. The ILS and 2SLS methods will not give identical estimates.
 - C. None of the above
 - D. The ILS and 2SLS methods will give identical estimates
19. As a remedy to the multicollinearity problem, doing which one of the following may lead to a specification problem?
- A. Transforming the variables
 - B. Adding new data
 - C. Dropping one of the collinear variables
 - D. First differencing the successive values of the variables
20. Which is true for logit and probit models?
- A. Both models guarantee that the estimated probabilities lie in the 0 to 1 range
 - B. In both models, dependent and independent variables are quantitative values
 - C. In both models, estimated probabilities are linearly related to explanatory variables
 - D. All of the above

21. Fundamental research is also known as _____
- A. Ex post facto research
 - B. Action research
 - C. Pure research
 - D. Analytical research
22. In selecting a sample, initially, a respondent is selected purposively and selects others from the respondent's social network for their participation in the research. This type of sampling technique is called _____
- A. Convenience sampling
 - B. Snowball sampling
 - C. Quota sampling
 - D. Systematic sampling
23. Which of the following is non-probability sampling
- i. Systematic sampling
 - ii. Convenience sampling
 - iii. Cluster sampling
 - iv. Quota sampling

Choose the correct answer

- A. (i) and (iii) only
 - B. (ii), (iii) and (iv) only
 - C. (i) and (iv) only
 - D. (ii) and (iv) only
24. Given below are two statements
- Statement I: A number is divisible by 3 if the sum of its digits is divisible by 3.
- Statement II: A number is divisible by 9 if the sum of its digits is not divisible by 9.
- In light of the above statements, choose the most appropriate answer from the options given below:
- A. Both Statement I and Statement II are correct
 - B. Both Statement I and Statement II are incorrect
 - C. Statement I is correct, but Statement II is incorrect
 - D. Statement I is incorrect, but Statement II is correct
25. What is a sampling error?
- A. There is a difference between the targeted number of samples and the number of collected samples
 - B. There is missing data in the collected questionnaires
 - C. It is a missing value in census data and NSSO data
 - D. There is a difference between the mean value of a sample and that of the population

26. A researcher concludes that attending coaching classes improves performance, but later it is found that those students also had more study hours. What is the best explanation?
- Type II error
 - Confounding variable
 - Spurious correlation
 - Construct invalidity
27. A significant positive correlation is found between coffee intake and productivity. Can the researcher claim that coffee causes increased productivity?
- Correlation indicates association
 - No, because it may be a chance finding
 - No, because correlation does not imply causation
 - Yes, if the p-value is less than 0.05
28. Based on the passage below, identify all the correct statements about Factor Analysis:

“Factor analysis, including both Principal Component Analysis and Common Factor Analysis, is a statistical approach that can be used to analyse interrelationships among a large number of variables and to explain these variables in terms of their common underlying dimensions (factors). The objective is to find a way of condensing the information contained in a number of original variables into a smaller set of variates (factors) with a minimal loss of information. By providing an empirical estimate of the structure of the variables considered, factor analysis becomes an objective basis for creating summated scales.”

Statements:

- Factor analysis aims to explain observed variables using common underlying factors.
 - Principal Component Analysis (PCA) is not considered a form of factor analysis.
 - The method helps reduce data dimensionality with minimal information loss.
 - It is based on the subjective researcher judgment in constructing variable groupings.
 - Factor analysis can serve as a foundation for building summated scales.
- Only 1
 - Only 2 and 3
 - Only 2 and 4
 - Only 1,3, and 5
29. If X is a necessary condition of Y, then
- Y is a sufficient condition of X
 - Y is a necessary condition of X
 - Y is neither a necessary condition nor a sufficient condition of Y
 - Y is a necessary and sufficient condition of Y
30. If from $A > B$ and $B > C$ we conclude that $A > C$, then we are assuming that the relationship between A and C is
- Symmetric
 - Transitive
 - Reflexive
 - Additive

31. In contemporaneous causality
- Cause precedes effect
 - Unexplained effect is identified with divine intervention
 - Unexplained cause is identified with error
 - Cause and effect occur at the same time
32. Let x and y be attainments of two individuals, and $w=x+y$ refers to an ideal well-being for each of the two individuals independently. If $c < \min\{x,y\}$ is an overall increment, then how should we distribute c between the two individuals such that it minimises the Euclidean distance to the overall ideal (that is, when both attain the ideal well-being)
- Add the entire c to $\min\{x,y\}$
 - Add the entire c to $\max\{x,y\}$
 - Add c to x and y in proportion to their shortfall from the ideal
 - Add $c/2$ to both x and y
33. Parallel trends are an important assumption in
- Simultaneous equation model
 - Difference-in-difference model
 - Large language model
 - Ordinary least squares model
34. A scholar has reached a village to conduct a survey by taking a sample of 10 households that represent the village. What should be the first thing that the scholar should do?
- To avoid being influenced by the village folk, the scholar should go to the first household where the scholar sees people and start the survey from that household.
 - To build a rapport, the scholar should go around the village talking to people, and then, when the scholar has developed familiarity, the scholar should start the survey from any household.
 - To save time, the scholar should go to some knowledgeable person in the village (like the Anganwadi worker, the village head or the village schoolteacher) and start the survey from that household.
 - To immediately start the listing of all the households in the village, along with some basic information for each household.
35. In a double-blind randomised control trial for a preventive medicine, 100,000 participants were given the treatment protocol with the trial drug, and another 100,000 participants were given the control protocol with the placebo. One year down the line, a preliminary finding indicated that from the treatment group, 0.001% got the disease for which they had taken the preventive, and from the control group, 0.02% got the disease. The scientist used the relative risk reduction formula to indicate that the efficacy of the drug is
- 95% [that is, $(1-(0.001/0.02))*100$]
 - 0.019% [that is, $(0.02-0.001)\%$]
 - 1.9% [that is, $(0.02-0.001)*100$]
 - 5% [that is, $(0.001/0.02)*100$]

Part B

36. According to David Harvey Stock Market is a market for which of the following forms of capital?
- A. Fictitious Capital
 - B. Trading Capital
 - C. Venture Capital
 - D. Productive Capital
37. The Foster-Greer-Thorbecke class of poverty measures cannot be used to
- A. Compute the headcount ratio
 - B. Estimate the poverty Line
 - C. Obtain a poverty measure that is decomposable across subgroups
 - D. Calculate the poverty gap index
38. A box has two dice, which are unbiased in their shape and size, but for some unforeseen reasons, one die has two fours printed and no threes on its six faces, and another has two threes printed and no fours on its six faces. Now, if the two dice are rolled together, which is the combined value that will have an advantage when compared to the scenario without any printing anomaly?
- A. 8
 - B. 5
 - C. 7
 - D. 6
39. Which of the following game forms cannot be represented in a constant-sum game .
- A. Matching of Pennies
 - B. Zero-sum game
 - C. Rock, Paper, Scissors
 - D. Battle of Sexes
40. In a 2X2 non-zero-sum game with a mixed strategy solution, if the probability of the column player's strategies is q and $1-q$, then we can obtain the value of q by
- A. Using the payoffs of the row player only
 - B. Using the payoffs of the column player only
 - C. Using the payoffs of both row and column players
 - D. Using the probability of the row player's strategies only
41. A Normal form game is also known as
- A. Extensive form game
 - B. Coalitional game
 - C. Strategic form game
 - D. Cooperative game
42. Which of the following statements is correct?
- A. Heteroscedasticity occurs when the variance of the errors is not constant
 - B. Heteroscedasticity occurs when the variance of the dependent variable is not constant
 - C. Heteroscedasticity occurs when the errors are not linearly independent of one another
 - D. Heteroscedasticity occurs when the errors have a non-zero mean

43. Tobin's q equals
- The stock market value of a firm
 - The ratio of capital's replacement cost to its market value.
 - The expected after-tax real interest rate.
 - ratio of capital's market value to its replacement cost.
44. Which of the following implies the following statement?
 "The transactions demand for money is negatively related to interest rate".
- Friedman's restatement of the Quantity theory of money
 - Baumol's square root rule
 - Keynesian ideas on money demand
 - Quantity theory of money
45. The user cost or the rental cost of capital is
- The sum of the real interest rate and the depreciation rate
 - The sum of the real interest rate and expected inflation rate
 - The real interest rate *minus* the depreciation rate
 - Equal to the real interest rate
46. The portion of a working day devoted by a labourer in order to produce the value of his labour-power is denoted by Marx as which of the following?
- Legal Minimum Labour Time
 - Necessary Labour Time
 - Superfluous Labour Time
 - Productive Labour Time
47. Let's take a Cobb-Douglas utility function: $U(x, y) = x^\alpha y^\beta$. Here, x and y are two goods that a particular consumer is consuming. Assume that the price of good x is 1, the price of good y is 4, and the total income is 8. Suppose also that $\alpha = \beta = 0.5$. What is the utility of the individual at the optimal choices?
- Utility = 2
 - Utility = 4
 - Utility = 6
 - Utility = 8
48. For the following utility function $u(x_1, x_2) = \min\{x_1, 2x_2\}$, What is the marginal rate of substitution if $x_1 = 2x_2$?
- 0
 - 1
 - Undefined
 - ∞

49. Suppose two identical firms (duopolists) face the following market demand curve:
 $P = 30 - Q$. Here Q is the total production of both the firms ($Q = Q_1 + Q_2$). Also, suppose that both firms have zero marginal cost. The Cournot equilibrium output levels are:
- $Q_1 = Q_2 = 5$
 - $Q_1 = Q_2 = 10$
 - $Q_1 = Q_2 = 15$
 - Insufficient data
50. In a 2x2 pure exchange economy general equilibrium model with both consumers having Cobb-Douglas type of utility functions, which is not true?
- There are only two goods and two consumers in the economy.
 - Two consumers have fixed endowments of goods and they might trade these endowment goods between them.
 - Edgeworth Box can be used for the analysis.
 - There are only two goods in the economy which are produced by two producers.
51. In which of the following market models do sellers take sequential actions (one after the other) on the choice variable(s)?
- Price Leadership model and the Stackelberg model
 - Bertrand model and Cournot Model.
 - Merger model and Bertrand model.
 - Price Leadership model and Cournot model.
52. In Turnovsky's model that incorporates wage bargaining, the Augmented Phillips Curve primarily reflects which of the following dynamics?
- A static trade-off between inflation and unemployment.
 - The influence of monetary policy on the natural rate of unemployment.
 - The interaction between expected inflation, wage-setting behaviour, and unemployment.
 - Long-run neutrality of monetary policy without any inflationary expectations.
53. Suppose the central bank of a country announces a credible plan to reduce inflation gradually over the next year. Under the Rational Expectations Hypothesis, how are private economic agents (e.g., firms and workers) most likely to respond?
- They will wait to observe actual inflation outcomes before adjusting their price and wage expectations.
 - They will immediately adjust their expectations of future inflation downward, affecting current wage and price setting.
 - They will continue to expect high inflation regardless of the central bank's announcement.
 - They will respond slowly due to information lags and backwards-looking behaviour.
54. The components of Adam's Smith natural price are
- Market rent, market wages, and market profit
 - Natural rent, natural wages, and natural interest

- C. Labour commanded
 - D. Natural rent, natural wages, and natural profit
55. If the required reserve ratio is 10 %, currency in circulation is Rs. 400 billion, and checkable deposits are Rs. 800 billion, and the excess reserves total Rs. 0.8 billion, then the money multiplier (M) is _____.
- A. 2
 - B. 1.67
 - C. 2.5
 - D. 0.601
56. _____ is the penal rate at which banks can borrow, on an overnight basis, from the Reserve Bank of India by dipping into their Statutory Liquidity Ratio (SLR) portfolio up to a predefined limit of 2 %.
- A. Marginal Standing Facility (MSF) Rate
 - B. Standing Deposit Facility (SDF) Rate
 - C. Repo Rate
 - D. Reverse Repo Rate
57. Inflation rate increases when _____.
- A. The unemployment rate equals the nonaccelerating inflation rate of unemployment (NAIRU).
 - B. The unemployment rate is below the NAIRU.
 - C. The unemployment rate exceeds the NAIRU.
 - D. The unemployment rate increases faster than the NAIRU increases.
58. On 2nd April 2025, the US administration announced reciprocal tariffs of ____% on imports from India and ____% on imports from Vietnam, respectively.
- A. 20 and 10
 - B. 22 and 20
 - C. 22 and 20
 - D. 27 and 46
59. In macroeconomics, what does "hysteresis" refer to?
- A. The relationship between inflation and interest rates
 - B. The idea that short-run economic shocks have no long-run impact
 - C. The possibility that temporary increases in unemployment can lead to permanently higher unemployment
 - D. A situation where inflation falls while output rises
60. Which trade theory contends that a country that initially develops and exports a new product may eventually become an importer of it, and may no longer manufacture the product?
- A. Theory of factor endowments
 - B. Theory of overlapping demands
 - C. Economies of scale theory
 - D. Product life cycle theory

61. Developing countries sometimes object that free trade will lead them to specialise in primary products. They view this as undesirable because
- A. Their costs of producing primary products are higher than the costs of producing them elsewhere.
 - B. They believe that the prices of primary products tend to fall over time.
 - C. Production of primary products is harmful to the environment.
 - D. They would rather consume manufactured goods.
62. The Smoot-Hawley Tariff Act
- A. Created NAFTA.
 - B. Raised tariffs on tulips imported into the Netherlands to over 100%.
 - C. Raised US tariffs on hundreds of products at the start of the 1930s.
 - D. Restricted US imports of motorcycles in the 1970s.
63. The Money form of Value, according to Marx, represents which of the following forms?
- A. Elementary Form
 - B. Expanded Form
 - C. General Form
 - D. Universal Equivalent Form
64. Which of the following forms of money, according to Marx, springs directly out of the function of money as a mode of payment?
- A. Credit Money
 - B. Digital Money
 - C. Bullion Money
 - D. Legal Tender Money
65. Which of the following fallacies does the Keynesian paradox of thrift draw from?
- A. Fallacy of Populace
 - B. Strawman Fallacy
 - C. Fallacy of Red Herring
 - D. Fallacy of Composition
66. Which of the following is a key challenge facing urban municipal finance in developing countries?
- A. Excessive tax autonomy
 - B. Overreliance on local property taxes
 - C. Fragmented revenue sources and inadequate expenditure assignments
 - D. Too much access to global capital markets
67. In the context of the theory of optimal taxation, which of the following best describes the *Ramsey Rule*?
- A. Tax rates should be inversely proportional to the price elasticity of demand of the taxed goods.
 - B. Tax rates should be proportional to individuals' marginal utility of income.
 - C. Tax rates should be uniform across all goods to minimise distortion.
 - D. Taxation should only occur on luxury goods to ensure equity.

68. In a linear regression model with a dummy variable D_i for gender (1 = female, 0 = male):

$$Wage_i = \beta_0 + \beta_1 \cdot educ_i + \beta_2 \cdot D_i + u_i$$

What does β_2 represent?

- A. The difference in the average level of education between males and females.
 - B. The marginal effect of education on wages.
 - C. The intercept shift in wages due to gender.
 - D. The effect of being male on wages.
69. In quarterly time series regression, how many dummy variables should be included to capture seasonal effects?
- A. 3
 - B. 4
 - C. 5
 - D. Depends on the number of observations
70. Which of the following stylised facts did Thomas Piketty use in his work to explain the steep rise in wealth inequality in countries?
- A. Profit rate exceeding wage rate
 - B. Income tax rate exceeding commodity tax rates
 - C. Falling capital-output ratio
 - D. Rate of return exceeding growth rate

Key to the Entrance Exam Ph.D. Economics 2025, School of Economics, University of Hyderabad

Q.No.-Part A	Answer	Q. No.-Part B	Answer
1	B	36	A
2	C	37	B
3	D	38	C
4	B	39	D
5	C	40	A
6	B	41	C
7	D	42	A
8	C	43	D
9	B	44	B
10	A	45	A
11	B	46	B
12	D	47	A
13	A	48	C
14	B	49	B
15	C	50	D
16	A	51	A
17	B	52	C
18	D	53	B
19	C	54	D
20	A	55	C
21	C	56	A
22	B	57	B
23	D	58	D
24	C	59	C
25	D	60	D
26	B	61	B
27	C	62	C
28	D	63	D
29	A	64	A
30	B	65	D
31	D	66	C
32	C	67	A
33	B	68	C
34	D	69	A
35	A	70	D

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