

Centre for Development Studies
Thiruvananthapuram

MA Applied Economics

ADMISSION EXAMINATION 2015

Read the instructions carefully before answering the questions

- This booklet consists of two parts. Part one contains 25 objective questions with multiple choices in answers. Part two contains five passages/tables and a set of questions below each passage/table. Questions are to be answered on the basis of the information given in the respective passage/table. The allowed time is two hours.
- Each correct answer for the objective questions in part one carries **two marks** and for each wrong answer **one mark will be deducted**. Non-attempted questions carry **zero mark**.
- In part one, answer the questions by writing the alphabet (A,B,C, or D in capital letters), corresponding to your answer, on the answer line given below right side of each question. If you mistakenly write a wrong choice, you can strike it out using "multiplicative sign" (×), and then write the correct choice in the remaining space.
- In part two, answer to a question should not exceed the given space provided below the question. **Write your answers legibly**. Maximum marks that a question carries is given on its right side in parenthesis.
- Write your **Register Number** in the space given in the bottom of this page.
- Please do not make any stray marks on this booklet.
- Return this booklet to the invigilator at the end of the examination.
- **Last page** of this booklet can be used for doing **rough work**.

✂ Break this seal only at 10.00 a.m.

Register Number:

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Question Booklet Series:

A

Part One

1. Supply (Q^S) and demand (Q^D) curves of rice are $Q^S = 1800 + 240P$ and $Q^D = 3550 - 266P$. What is the price elasticity of demand and supply at equilibrium?

A. -0.35, 0.32
 B. -0.32, 0.35
 C. 0.35, -0.32
 D. 0.32, -0.35

1. _____

2. Inverse demand function faced by a monopolist is $A - bq = p$, where p is price and q is quantity. The cost function of the monopolist is cq . Assume that $A > c > 0$. If there is quantity tax of t per unit of output sold by the monopolist. What is the impact on price of the good after imposition of quantity tax?

A. Price increases and whole burden of t tax per unit of output sold is borne by the buyer.
 B. Price increases and partial burden of t tax per unit of output sold is borne by the buyer.
 C. Price increases and the burden of t tax per unit of output sold is proportional to elasticity of demand.
 D. None of the above.

2. _____

3. If the demand functions for goods 1 and 2 are $10 - 2p = q$ and $20 - 5p = q$ respectively. Which good has higher demand elasticity at $p = \frac{10}{3}$?

A. Demand elasticity of good 1 is higher than good 2.
 B. Demand elasticity of good 2 is higher than good 1.
 C. Demand elasticity is same for good 1 and good 2.
 D. None of the above.

3. _____

4. Consider two individuals 1 and 2 and one good. Each individual prefers more amount of that good. If individual 1 is allocated the whole amount of the good and individual 2 is given zero. The above allocation is:

A. Pareto efficient.
 B. Pareto inefficient.
 C. Envy free allocation.
 D. None of the above.

4. _____

A

5. Suppose the utility function of an individual from the consumption of two goods is given as $u(x_1, x_2) = x_1 x_2$. The budget constrained of the individual is given as $p_1 x_1 + p_2 x_2 = M$, where p_1 price of good 1, p_2 price of good 2 and M is the income of the individual. Suppose the price of both the goods is doubled and the income is also doubled. What happens to the optimal consumption bundle?

A. New consumption bundle is half of the old consumption bundle .
B. New consumption bundle is double of the old consumption bundle.
C. No change in the consumption bundle.
D. New consumption bundle is less than the old consumption bundle but not half.

5. _____

6. Let X denote the number of heads obtained when 2 fair coins are tossed. Then expectation of $Z = 6 + 2X^2$ is

A. 10.
B. 8.
C. 11.
D. 9.

6. _____

7. Consider two sets of numbers, one number is chosen at random from each set of numbers. First number is chosen at random from the set $\{1, 2, 3\}$. Second number is chosen at random from the set $\{5, 6, 8, 9\}$. What the probability of getting first number = 3 and second number = 8, if probability of getting a number from a set is equally likely?

A. $\frac{1}{7}$
B. $\frac{1}{12}$
C. $\frac{1}{4}$
D. $\frac{1}{6}$

7. _____

8. A fair coin is tossed repeatedly until a tail is obtained for the first time. What is the probability that a tail will appear in at most 4 tosses?

A. $\frac{12}{16}$
B. $\frac{1}{4}$
C. $\frac{15}{16}$
D. $\frac{3}{4}$

8. _____

9. Suppose an individual consumes two goods 1 and 2 and both are normal goods. The utility function of the individual is differentiable and optimal consumption bundle of the individual is such that positive amount of both the goods are consumed at positive prices. The price of good 1 is doubled. The income of the individual is compensated in such a way that initial optimal consumption bundle that is optimal bundle before price of good 1 is doubled is affordable. The new budget line passes through the initial optimal consumption bundle. What happens at the new optimal consumption bundle after price of good 1 is doubled and income is compensated in the above defined way?

A. Demand for good 1 increases and demand for good 2 decreases.
B. Demand for good 1 decreases and demand for good 2 increases.
C. Demand for good 1 decreases and demand for good 2 decreases.
D. Demand for good 1 increases and demand for good 2 remains same.

9. _____

10. Indifference curve of an individual consuming two goods intersects at a point (x, y) . The preference relation of that individual violates which one of the following properties?

A. Reflexivity.
B. Completeness.
C. Transitivity.
D. Convexity.

10. _____

A

11. What is the correct interpretation of the ratio: Savings/Gross Fixed Capital Formation?

- A. Savings Rate
- B. Investment Rate
- C. Domestic funding of investment
- D. Efficiency of savings

11. _____

12. Rate of growth of implicit GDP deflator is a measure of overall inflation in an economy. How is it computed?

- A. By taking the ratio of GDP in current Prices to GNP at constant prices
- B. By taking the ratio of GDP at current Prices to GDP at constant prices
- C. By taking the rate of growth GDP at constant prices and dividing it by the rate of growth of the Consumer Price Index
- D. None of the above

12. _____

13. Recently the Central Statistical Organisation (CSO) has shifted the base year for national income aggregates. This was:

- A. From 2004-05 to 2011-12
- B. From 2003-04 to 2013-14
- C. From 2001-02 to 2011-12
- D. From 2005-06 to 2012-13

13. _____

14. The most important source of non-tax revenue to the central government is:

- A. Spectrum charges
- B. Dividends and profits
- C. Revenue from Indian Railways
- D. Privatisation proceeds

14. _____

15. The ultimate objective of the proposed Goods and Services Tax is:
- A. To simplify the tax structure
 - B. To increase the amount of tax devolution to states
 - C. To reduce delays in the transportation of goods across states
 - D. To pave the way for a common national market

15. _____

16. The most important subsidy that government of India incurs is in:
- A. Petroleum
 - B. Fertilizer
 - C. Food
 - D. Energy

16. _____

17. The components of Foreign Direct Investments to India are:
- A. Inward and Outward FDI from India
 - B. Equity inflows, reinvested earnings and net lending by parent firms to affiliates
 - C. Equity inflows and retained profits
 - D. Equity inflows and other capital

17. _____

18. India's current account deficit is usually less than her trade deficit. This is largely due to the fact:
- A. Exports of Services, Transfers and Income is less than her imports of these items
 - B. Exports of Computer Software is less than imports of Computer Software
 - C. India is the largest remittance receiving country in the world
 - D. Exports of services are less than imports of services

18. _____

19. In India, the ratio of Gross Value of Output (GVO) to Gross Value Added (GVA) is the highest for:
- A. Services Sector
 - B. Industrial Sector
 - C. Manufacturing Sector
 - D. Agricultural Sector

19. _____

A

20. What are the stated aims of the *Make in India* programme?

- A. Improve the share of manufacturing sector in India's GDP
- B. To make India a world class manufacturer in a range of industrial goods
- C. To facilitate investment, foster innovation, enhance skill development, protect intellectual property, and build best-in-class manufacturing infrastructure.
- D. Improve ease of doing business in India

20. _____

21. This is the difference between a sample statistic and the corresponding population parameter.

- A. Standard error
- B. Sampling error
- C. Difference error
- D. None of the above

21. _____

22. What is the effect of an outlier on the value of a correlation coefficient?

- A. An outlier will always decrease a correlation coefficient.
- B. An outlier will always increase a correlation coefficient.
- C. An outlier might either decrease or increase a correlation coefficient, depending on where it is in relation to the other points.
- D. An outlier will have no effect on a correlation coefficient.

22. _____

23. The value of a correlation coefficient is reported by a researcher as $r = 0.5$. Which of the following statements is correct?

- A. The x-variable explains 25% of the variability in the y-variable.
- B. The x-variable explains -25% of the variability in the y-variable.
- C. The x-variable explains 50% of the variability in the y-variable.
- D. The x-variable explains -50% of the variability in the y-variable.

23. _____

24. One use of a regression line is
- A. to determine if any x-values are outliers.
 - B. to determine if any y-values are outliers.
 - C. to determine if a change in x causes a change in y.
 - D. to estimate the change in y for a one-unit change in x.

24. _____

25. The following data lists eight different investment amounts (X) and the amount of interest they earned (Y):

X (Rs.)	1000	2000	3000	10000	500	5000
Y (Rs.)	50	100	150	500	25	250

What is the best estimate for the correlation coefficient (r) between X and Y?

- A. r will be positive and close to zero
- B. r will be positive and close to one
- C. r will be exactly one
- D. r will be negative

25. _____

Part Two

Passage 1

A review of several conventional gender development indicators suggests remarkably high performance for the state of Kerala. According to the 2001 Census of India, the female literacy rate in the state was 91.98 percent, compared to the male rate of 96.02 percent. This is considerably higher than the all-India average, which is 65.46 percent for women and 82.14 percent for men. In addition to high female literacy rates, school enrolment for girls is on a par with boys, and girls outnumber boys in higher education enrolment. Life expectancy of women exceeds male life expectancy in the state and is significantly higher than the Indian national average. Maternal mortality rates in Kerala are less than 1 per 3,000, and the total fertility rate is 1.7, compared to 2.9 in India as a whole. The age of marriage for women in Kerala (22.7) is also higher than the national average of 19.7, and female infants survive at a slightly higher rate than male infants (Female IMR = 13/1,000, Male IMR = 17/1,000). Furthermore, in contrast to other Indian states, Kerala has long boasted a sex ratio favouring women. In 2011, it stood at 1,084 females per 1,000 males.

Taken at face value, these indicators suggest at the very least good access to education and health care, but typically are interpreted as indicating a relatively high social status for women in terms of gender equality. However, a closer scrutiny of these indicators challenges that notion. First, although university enrolment is high for women, considerable disciplinary segregation characterizes this enrolment. Women are concentrated in general arts and sciences and in traditionally "feminine" fields such as education and social work. Male/female enrolment in medicine is fairly equivalent, but men dominate in fields like engineering and polytechnic disciplines. Also, sex ratio projections among the elderly between 60 and 70 years indicate a sharp dip to near parity (Census of India, 2001). Since all things being equal, women typically outlive men, sex ratios among the elderly should be expected to favour women. Near parity in this age group thus cannot support the notion of gender equality, especially in light of the overall context of sex ratios in the state.

26. From the above figures on higher education, what inferences can you make on women's labour force participation? (2)

27. It is mentioned that fields like education and social work are 'traditionally "feminine" '. What does this mean? (2)

28. Why is the dip in sex ratios of the elderly worrying? (2)

29. According to the passage, many indicators like life expectancy and MMR are favourable to women, while sex ratio projections among the (2)

elderly are not. What inference can you make about women's access to health care from this?

30. There is a relatively slight gender gap in literacy in Kerala. Is it cause for worry? (2)

Passage 2

A common assumption made in development planning is that the choice of products in agriculture should maximise the value of output and that, if this results in shortages of an essential commodity such as food grains in any region, the shortfall is best made good by imports. It is presumed that the operation of the free market will induce the necessary quantum of imports. This explains why the strategy of agricultural development in India (as in many other countries) is based on the selection of particular regions for increasing production of food grains through intensive application of inputs; such regions being identified as areas in which increases in production can be secured at least cost. The presumption is that these regions are the best sources of supply of food-grains and that, left to market forces, the required supplies will in fact become available to food-deficit regions.

This line of reasoning does not take into account a very important factor, namely, the limited power of relatively poor and scattered rural communities to attract supplies of food grains from a distance after covering the marketing costs and distributive margins. Only comparatively prosperous urban areas are able to secure such supplies to any significant degree. For the same reason, a public distribution system of food-grains can be considered adequate only if it is able to meet the minimum consumption requirements of the poorest sections of the rural population. A system of public distribution of food grains adequate to meet the minimum nutritional needs of the poorest sections of the population in both urban and rural areas can be operated without excessive dependence on imports only if supplies can be secured from farmers on a systematic basis through a progressively graded producers' levy.

A

31. How is the market expected to work in ensuring food supplies to food-deficit areas? (2)

32. What is the factor mentioned in the passage that is seen as impeding the above working of market forces? What other possible impediments to the working of market forces can you think of, other than the above? (2)

33. When can we consider a public distribution system adequate? (2)

34. Why are richer urban areas advantaged in comparison with poor rural areas in securing food grains? (2)

35. Why is a progressively graded levy on farmers considered important? (2)

Passage 3

The wholesale trader, the raw material importer, the factory owner, were the new capitalists in colonial India. In some industries notably handloom weaving, the capitalists tended to come from the artisanal communities. On the other hand, in industries such as leather, capitalists came from merchant communities. Three factors were possibly of importance in determining the background from which capitalists in an industry would evolve. First, differences in skill mattered. In many traditional industries craftsmanship was the main form of fixed capital. Those who possessed such capital could often control the trade as well because they could ensure quality. In weaving, this logic worked well but less in a relatively unskilled craft such as tanning. Secondly, whether a craft was export-oriented or home market oriented mattered. In exportable crafts, the large-scale of trade and the nature of the market made both working capital and information scarce. Thus merchant firms had greater control over production. In contrast, if the crafts served local consumption, the producers knew the market as well as the marketing system and their need for capital was smaller. Thirdly, social hierarchy mattered. There is evidence that suggests that tanners faced resistance from upper caste neighbours and found it harder to get loans for business or start an enterprise compared with weavers who faced no such social sanctions.

36. Skill in tanning was less advantageous than skill in weaving. Why? (2)

37. Why were capitalists in tanning industry from merchant rather than artisan communities? (2)

38. Under what circumstances did merchants have greater control over production? (2)

39. What role is information seen to play in ensuring relative advantages for the producer? (2)

40. What kind of social hierarchy is hinted at in the passage as relevant to economic outcomes? (2)

Passage 4

National Account statistics of country X from expenditure side is given in Table 1. The figures are in rupees crore and in 2004-05 prices.

Table 1:

item		2004-05	2005-06
1	Final consumption expenditure	227	247
1.1	Government final consumption expenditure	35	39
1.2	Private final consumption expenditure	192	208
2	Gross fixed capital formation	93	108
3	Change in stocks	8	10
5	Exports of goods & services	57	72
5.1	Export of goods	38	47
5.2	Export of services	19	25
6	Imports of goods & services	63	83
6.1	Imports of goods	50	68
6.2	Imports of services	12	15

41. Find out the GDP from the expenditure side for the year 2005-06. (2)

42. What is the investment rate of this country for the year 2004-05? (2)

43. Using the given information, can you suggest a broad measure of globalisation of the economy? (2)

44. From the given information can you suggest measure for the size of the government which is adjusted for the size of the economy? (2)

45. Find out the growth rate of GDP between 2004-05 and 2005-06. (2)

Passage 5

Wider economic inequality is something that modern societies try to avoid because of its many undesirable consequences. Economic inequality in a society is generally understood in terms of inequality in the distribution of income and wealth among its members. Evolution of economic inequality along economic growth generally attracts a lot of attention as the society is concerned with how inclusive the growth process is. However, making a judgement about how inclusive or equitable the growth process is always contentious. In the attempt to understand inclusiveness of economic growth, researchers usually consider the over-time trend in various measures of inequality in income and wealth. One source of disagreement among various measures of inequality is the differing view about the underlying concept of equality or inequality. Consider a two-person ordered income distribution (10; 40). Suppose that each person's income is doubled. Then the new distribution is (20; 80). In purely relative terms, the two individuals are in the same relationship to each other in both distributions (in both cases richer person's income is four times more than that of the poorer person). All standard measures of inequality having scale invariance property, (i.e. measured inequality remain unchanged if incomes of all individuals are scaled up or down by the same proportion) would judge the inequality has remained unchanged in the transition from (10; 40) to (20; 80). However, for those who held the view that a growth process is inclusive only if it leaves each individual with same initial income *plus* an equal share in the total income *added* by the growth, the transition from (10; 40) to (20; 80) is not an inclusive growth. Measures of inequality that remain unchanged when all incomes are increased by equal amount are said to satisfy *translational invariance*. Those who subscribe to the translational invariance hold the view that it is not the *equi-proportionate*, but simply *equal* increase to all incomes that ought to leave measured inequality unchanged. Inequality measures satisfying scale invariance is called "rightist" measures. An example is the Relative Gini Coefficient, which takes value zero for perfect equality and one for complete inequality. Measures of inequality that satisfy translational invariance is called "leftist" measures. An example is the Absolute Gini, a higher value of it indicates higher inequality. Table 2 presents the trends in inequality in the distribution of household assets in urban India.

Table 2: Inequality in the Distribution of Household Assets in Urban India

Year	Relative Gini, G^R	Absolute Gini, G^A
1981-82	0.7037	28546.29
1991-92	0.6805	47333.24
2002-03	0.6643	69528.30

Note: Absolute measures are in constant 1981-82 prices.

Source: Subramanian, S. and Jayraj, D. (2013) "Economic Inequality in India: Value-Free Measurement", *Challenge*, vol. 56 (4), pp.26-37

46. In country B, for the last ten years per capita income grew at the rate of 5 per cent. Income of all individuals in the society also increased by 5 per cent. So the government of that country claimed that the growth process is inclusive as benefits of growth is equally distributed among all members of the society. Do you agree with this claim? Explain in one sentence. (2)

47. You held the viewpoint that a growth process is inclusive if all individuals in that society has an equal share in the resources generated by the growth. Now you want to examine this in the context of India. Which set of measures of inequality would you use, "leftist" or "rightist" or both? (2)

48. Suppose you are person subscribing to the translational invariance property of inequality measures, what would you conclude from Table 2? (2)

49. Suppose you held the view that economic growth is inclusive only when assets of all households increase by the same proportion, then what would you conclude from Table 2 on the nature of economic growth in urban India? (2)

50. Consider a two member society with ordered income distribution (10,30). Suppose total income in this society doubled, keeping 'leftist' measures of inequality' unchanged. What is the new distribution of income in this society? (2)

Place for rough work