30

QUESTION PAPER SERIES CODE

A

Registration No. :

Centre of Exam. : _____

Name of Candidate : _____

_____
Signature of Invigilator

ENTRANCE EXAMINATION, 2016

M.A. ECONOMICS

[Field of Study Code : ECOM (216)]

Time Allowed : 3 hours   *Maximum Marks* : 100

INSTRUCTIONS FOR CANDIDATES

Candidates must read carefully the following instructions before attempting the Question Paper :

(i) Write your Name and Registration Number in the space provided for the purpose on the top of this Question Paper and in the Answer Sheet.

(ii) The question paper has two parts : Section—A and Section—B. Marks obtained in Section—A will be used for shortlisting candidates for whom answers for Section—B will be evaluated. Final selection will be on the basis of total marks obtained in Section—A and Section—B.

(iii) **For Section—A, please darken the appropriate circle of the Question Paper Series Code on the Answer Sheet** provided for the purpose by darkening the correct choice, i.e., (a) or (b) or (c) or (d) with a BALLPOINT PEN only against the corresponding circle. Any overwriting or alteration will be treated as wrong answer.

(iv) Answers for Section—B should be written in the Question Paper itself in the space provided with each question.

(v) Pages at the end have been provided for Rough Work.

(vi) Return the Question Paper and Answer Sheet to the Invigilator at the end of the Entrance Examination. **DO NOT FOLD THE ANSWER SHEET.**

INSTRUCTIONS FOR MARKING ANSWERS

1. Use only Blue/Black Ballpoint Pen (do not use pencil) to darken the appropriate Circle.
2. Please darken the whole Circle.
3. Darken <u>ONLY ONE CIRCLE</u> for each question as shown in example below :

Wrong	Wrong	Wrong	Wrong	Correct
● ⓑ ⓒ ●	⊗ ⓑ ⓒ ⓓ	⊗ ⓑ ⓒ ⊘	⊙ ⓑ ⓒ ●	ⓐ ⓑ ⓒ ●

4. Once marked, no change in the answer is allowed.
5. Please do not make any stray marks on the Answer Sheet.
6. Do rough work only on the pages provided for this purpose.
7. Mark your answer only in the appropriate space against the number corresponding to the question.
8. **Ensure that you have darkened the appropriate Circle of Question Paper Series Code on the Answer Sheet.**

Each question carries *1* mark

Answer Question Nos. 1–5 on the basis of the following :

Suppose an unbiased coin is tossed repeatedly 25 times under the same conditions.

1. What is the expectation of the number of heads in 25 tosses?

    (a) 12

    (b) 12·5

    (c) 12 or 13

    (d) 13

2. What is the standard deviation of the number of tails in 25 tosses?

    (a) Not more than 2·5

    (b) More than 2·5 but not more than 3·5

    (c) More than 3·5 but not more than 4·5

    (d) More than 4·5

3. What is the standard deviation of the proportion of heads in 25 tosses?

    (a) 0·025

    (b) 0·05

    (c) 0·1

    (d) 0·25

4. If the unbiased coin was replaced with a coin biased towards the outcome head, the standard deviation of the number of tails in 25 tosses (compared to that for the unbiased coin) would have been

    (a) smaller

    (b) the same

    (c) larger

    (d) at least as large

5. If the unbiased coin was replaced with a coin biased towards the outcome tail, the standard deviation of the number of tails in 25 tosses (compared to that for the unbiased coin) would have been

    (a) smaller

    (b) the same

    (c) larger

    (d) at least as large

Answer Question Nos. 6–10 on the basis of the following :

Suppose in an economy the amount of income tax (T) which has to be paid by an individual with income (Y) is given by the following relations :

$$T = 0, \text{ if } Y < 25$$
$$T = -25 + 5Y^{\frac{1}{2}}, \text{ if } Y \geq 25$$

6. What is the rate of income tax paid by an individual with income 225?

    (a) Not more than 10%

    (b) More than 10%, but not more than 20%

    (c) More than 20%, but not more than 30%

    (d) More than 30%

7. What is the marginal rate of income tax at income level 225?

    (a) Not more than 10%

    (b) More than 10%, but not more than 20%

    (c) More than 20%, but not more than 30%

    (d) More than 30%

8. The level of income for individuals who have to pay the maximum rate of income tax in this economy is

    (a) not more than 100

    (b) more than 100, but not more than 200

    (c) more than 200, but not more than 300

    (d) more than 300

9. The maximum rate of income tax which has to be paid by any individual in this economy is

    (a) not more than 20%

    (b) more than 20%, but not more than 30%

    (c) more than 30%, but not more than 40%

    (d) more than 40%

10. Over the income range 167 to 219, the income tax regime is

(a) progressive

(b) regressive

(c) proportional

(d) None of the above

11. Let a consumer's preference relation satisfy

(i) local nonsatiation

(ii) strict monotonicity

Which of the following is true?

(a) *(ii)* implies *(i)*

(b) *(i)* and *(ii)* are independent

(c) *(i)* and *(ii)* are equivalent

(d) Cannot say

12. Which of the following is not a component of the capital account of balance of payments?

(a) Funds brought in by workers working in another country

(b) Funds brought into a country by a foreign company

(c) Funds coming in for buying shares in stock markets

(d) Acquisition of a house in India by a non-resident Indian

13. For what value of x is the following matrix invertible?

x	1	0
0	2	1
3	1	2

(a) $x = -1$

(b) $x = 1$

(c) $x < -1$ or $x > 1$

(d) $x = 0$

14. Under the Bretton Woods system

    (a) dollar and gold were both used in international transactions

    (b) dollar and Special Drawing Rights issued by the International Monetary Fund were both used as international currencies

    (c) only Special Drawing Rights were used

    (d) dollar was recognized as the international reserve currency

15. According to the quantity theory of money, an increase in the money supply results in an increase in which of the following?

    (a) Interest rate

    (b) Unemployment

    (c) Nominal gross domestic product

    (d) The government's budget deficit

16. Assume that there are only two countries, X and Y, that produce only two goods, A and B. The table below shows labour hours required in each country to produce a unit of each good :

	Good A	Good B
Country X	55	65
Country Y	45	40

    Which of the following statements is correct?

    (a) Country Y has a comparative advantage in producing both goods.

    (b) Country X has a comparative advantage in producing good A.

    (c) The two countries should not trade since country Y produces both goods using less quantities of labour.

    (d) None of the above

17. If the Reserve Bank of India reduces the supply of Indian rupees on the foreign exchange market relative to the United States dollar, which of the following situations is likely to occur?

    (a) Indian rupee will depreciate

    (b) The United States dollar will appreciate

    (c) The United States consumers will have to pay more for products exported by India

    (d) The United States goods imported by India will be more expensive

18. The function $f(x) = x^2$ is

    (a) strictly convex

    (b) strictly concave

    (c) convex when $x < 0$ and concave when $x > 0$

    (d) None of the above

19. Suppose x is a positive real number. Let y be two-third of sixty percent of x and let z be forty percent of x. Which of the following statements is true?

    (a) $y > z$

    (b) $y = z$

    (c) $y < z$

    (d) None of the above

20. In a simple Keynesian model of closed economy without taxes, if the marginal propensity to save is 0.3, an increase in government expenditure by ₹ 1,000 crore will result in an approximate increase in a country's income by

    (a) ₹ 3,300 crore

    (b) ₹ 300 crore

    (c) ₹ 7,000 crore

    (d) ₹ 700 crore

21. Let $\log(x)$ represent the natural logarithm of x. Now let $f(x) = a^x$ where a is a positive constant. Then the derivative of $f(x)$ w.r.t. x is

    (a) 1

    (b) 0

    (c) $x^2 \log(a)$

    (d) $a^x \log(a)$

22. M1 measure of money supply is equal to

    (a) currency with the public + demand deposits with the banking system + 'other' deposits with the RBI

    (b) currency with the public + savings deposits of post office savings banks

    (c) demand deposits with the banking system + short-term time deposits of residents

    (d) time deposits with the banking system

23. In a frequency distribution, what percent of the total number of observations lies between the first and third quartiles?

(a) 50

(b) 68

(c) 75

(d) The question cannot be answered without knowledge of the specific distribution

24. The power of a statistical test is

(a) $Pr(\text{accept } H_0 \mid H_0 \text{ true})$

(b) $Pr(\text{reject } H_0 \mid H_0 \text{ true})$

(c) $Pr(\text{accept } H_0 \mid H_1 \text{ true})$

(d) $Pr(\text{reject } H_0 \mid H_1 \text{ true})$

25. Sonia has decided to always spend one-tenth of her income on shoes. Her income and price elasticities of demand for shoes are

(a) income elasticity zero, price elasticity unity

(b) income elasticity zero, price elasticity zero

(c) income elasticity unity, price elasticity unity

(d) income elasticity unity, price elasticity zero

26. If the incomes of some people in an economy grow faster than that of others, then

(a) the level of inequality rises

(b) the level of inequality falls

(c) the level of inequality can change in either direction

(d) there is no change in the level of inequality

Answer Question Nos. 27–29 on the basis of the following :

"What, at any time, is regarded as 'money' are those forms of financial claims which are commonly used as means of clearing debts. But any shortage of commonly-used types is bound to lead to the emergence of new types; indeed, this is how, historically, first bank notes and then chequing accounts emerged. Of course, within limits, the ultimate monetary authority can and does exercise control over the volume of borrowing, because it can control interest rates, particularly at the short end, through open market operations, far more powerfully than other operators, and because, within limits, it can control the volume and direction of lending by the clearing banks, which have such a powerful role in the system as suppliers of credit. But when credit control is operated as an independent instrument—as a substitute for fiscal policy, and not as a complement to it—any forceful initiative by the monetary authorities weakens their hold over the market by diverting business from the clearing banks to other financial institutions. When the central bank succeeds in controlling the quantity of 'conventional money', lending and borrowing is diverted to other sources, and the 'velocity of circulation', in terms of conventional money, is automatically speeded up."

(Nicholas Kaldor—*The New Monetarism*, 1970)

27. According to Kaldor, chequing accounts

    (a) are not money because they are not financial claims

    (b) are identical to all other forms of financial claims

    (c) emerged because of shortage of other types of liquidity like commodity money or banknotes

    (d) are the most commonly used means of clearing debts

28. The monetary authority can control the volume of borrowing

    (a) by supplying credit directly

    (b) by controlling interest rates through open market operations

    (c) by shorting on clearing banks

    (d) in an unlimited way

29. If the central bank tries to control credit

    (a) it can divert lending and borrowing to other forms of financial claims

    (b) it can only do so if it is a substitute for fiscal policy

    (c) it will have to do so forcefully so as to divert business from the clearing banks

    (d) it must do so through open market operations

30. A typical indifference curve is negatively sloped in a two-commodity world because

(a) marginal rate of substitution is diminishing

(b) more of any commodity is better

(c) marginal rate of technical substitution is diminishing

(d) None of the above

31. Let $f(x)$ be differentiable for all x such that $0 < x < 1$. Which of the following statements is true?

(a) $f(x)$ is continuous for all x such that $0 < x < 1$

(b) $f(x)$ is continuous when $x < \dfrac{1}{2}$ but discontinuous at some other x

(c) We cannot say anything about the truth of (a) and (b) given the information

(d) None of the above

32. In the IS-LM model, 'crowding out effect' will not happen if

1. money supply is fixed

2. money supply is adjustable

3. economy is saddled in the 'liquidity trap'

4. money demand is only for transaction purposes

Which of the above is/are true?

(a) Both 1 and 4

(b) Only 3

(c) Both 2 and 3

(d) Only 2

Answer Question Nos. 33–36 on the basis of the following :

Let the following utility function represent the preference relation of an individual :

$$U(x,\ y) = x^{1/2} + y$$

Let P_x, P_y, M denote the prices of goods x, y and money income respectively; P_x, P_y, $M > 0$.

33. Optimal consumption bundle of the consumer includes

    (a) only good x

    (b) only good y

    (c) both the goods x, y

    (d) Cannot say

34. Given prices, as M increases optimal consumption of x

    (a) increases

    (b) decreases

    (c) remains constant

    (d) Cannot say

35. Let

    $$P_y = 2,\ P_x = \frac{1}{4\,M}$$

    Optimal consumption bundle includes

    (a) only good x

    (b) only good y

    (c) both the goods x, y

    (d) Cannot say

36. If $P_x = P_y$, in the optimal consumption bundle

    (a) equal amount of x, y is consumed

    (b) consumption of x is more than y

    (c) consumption of y is more than x

    (d) Cannot say

Answer Question Nos. 37–40 on the basis of the following :

Advance estimates of GDP for 2015–16 and 1st revised estimate of GDP for 2014–15 (₹ in crore).

		A at basic prices	Taxes on products including import duties	Subsidies on Products	GDP
At constant 2011–12 prices	2014–15 (1st RE)	9727490	1108339	283679	A
	2015–16 (AE)	B	1193486	280102	11350962
	Growth	C	7·7	−1·3	D
At current prices	2014–15 (1st RE)	E	1350361	334565	12488205
	2015–16 (AE)	12252306	1643688	328802	F
	Growth	G	21·7	−1·7	H

37. A is equal to

   (a) ₹ 1,05,52,150 crore

   (b) ₹ 89,02,830 crore

   (c) ₹ 97,27,490 crore

   (d) ₹ 1,11,19,508 crore

38. B is equal to

   (a) ₹ 1,13,50,962 crore

   (b) ₹ 98,77,374 crore

   (c) ₹ 1,22,64,346 crore

   (d) ₹ 1,04,37,578 crore

39. C is equal to

   (a) 1·5%

   (b) 26·1%

   (c) 7·3%

   (d) 16·7%

40. D is equal to

   (a) 7·6%

   (b) 27·5%

   (c) 2·1%

   (d) 16·7%

41. E is qual to

(a) ₹ 1,24,88,205 crore

(b) ₹ 1,08,03,279 crore

(c) ₹ 1,35,04,001 crore

(d) ₹ 1,14,72,409 crore

42. F is equal to

(a) ₹ 1,22,52,306 crore

(b) ₹ 1,35,67,192 crore

(c) ₹ 1,09,37,420 crore

(d) ₹ 1,42,24,796 crore

43. G is equal to

(a) 13·4%

(b) – 9·3%

(c) 6·8%

(d) – 1·9%

44. Real variables x and y satisfy the relation $dy/dx = x^3/y^2$ and we know that the value of y^3 is –9 when the value of x is 2. What is the value of x^2 when the value of y is 3?

(a) 5

(b) 6

(c) 8

(d) 12

45. What is the definite integral of $e^{\ln(2x+1)}$ from 1 to 2?

(a) 3

(b) 5

(c) 9

(d) None of the above

46. In a two-good world (say goods are x and y) where any amount of goods x, y can be consumed if an individual's preference ordering is lexicographic (i.e., x is lexicographically preferred to y), then which of the following is the utility function that represents such a preference ordering?

(a) $u(x, y) = xy$

(b) $u(x, y) = x - 1/y$

(c) $u(x, y) = y - 1/x$

(*) No utility function can represent such preferences

47. In game theory, which one of the following statements is true?

(*) A dominant strategy equilibrium is always a Nash equilibrium but a Nash equilibrium need not be a dominant strategy equilibrium.

(b) A dominant strategy equilibrium is never a Nash equilibrium.

(c) A Nash equilibrium is always a dominant strategy equilibrium.

(d) A Nash equilibrium is never a dominant strategy equilibrium.

48. In a two-good world, if the goods are perfect substitutes, then the indifference curves are

(a) kinked straight lines

(b) curved lines that are convex to the origin

(*) straight lines

(d) None of the above

49. A rise in Tobin's q ratio is supposed to lead to a rise in

(a) consumption expenditure

(*) investment expenditure

(c) government expenditure

(d) net export

50. The real balance of Pigou effect relates to the effect of a fall in the price level on

(*) consumption expenditure

(b) investment expenditure

(c) government expenditure

(d) net export

Attempt *any* **seven** questions out of Question Nos. **51–59**

Each question carries 5 marks

Question No. **60**, which carries 15 marks, is compulsory

51. Prove that the sum of the first n odd integers is n^2.

52. In a perfectly competitive industry, the long-run demand curve is given by $p = 1000 - q$, the long-run average cost function for the representative firm is given by $(q-4)^2 + 40$. How many identical firms can exist in this industry? Explain. (q = quantity sold by a firm and p = price)

53. Consider the problem

Maximize $3x + y$

subject to

$y + 5x = 10, \ x >= 0, \ y >= 0$

Obtain a solution and check that the solution you have is indeed a maximum.

54. A monopolist produces a single good and supplies it to two markets. Inverse demand functions for the two markets are $P_1 = 50 - 5Q_1$ and $P_2 = 100 - 10Q_2$ respectively. Cost of production function for the monopolist is $C(Q) = 90 + 20Q$. Find out—

(a) the profit maximizing output for the monopolist;

(b) the profit maximizing supplies to the two markets;

(c) the maximum profits that the monopolist can realize.

55. In an economy where 20 percent of income is taxed and consumption expenditure is 75 percent of post-tax income. If the level of investment expenditure is ₹ 500 and government expenditure is ₹ 1,100, then

(a) what is the level of income;

(b) what is the budget deficit;

(c) what will be the level of income when with unchanged investment and tax rate, government expenditure is such that the budget is balanced?

56. "It is true, that, when an individual saves he increases his own wealth. But the conclusion that he also increases aggregate wealth fails to allow for the possibility that an act of individual saving may react on someone else's savings and hence on someone else's wealth.... For although the amount of his own saving is unlikely to have any significant influence on his own income, the reactions of the amount of his consumption on the incomes of others makes it impossible for all individuals simultaneously to save any given sums. Every such attempt to save more by reducing consumption will so affect incomes that the attempt necessarily defeats itself. It is, of course, just as impossible for the community as a whole to save *less* than the amount of current investment, since the attempt to do so will necessarily raise incomes to a level at which the sums which individuals choose to save add up to a figure exactly equal to the amount of investment."

(J. M. Keynes)

On the basis of the above passage, answer the following questions :

(a) What happens when the community as a whole decides to save less than the current investment?

(b) Can all individuals end up with a higher aggregate saving by deciding simultaneously to consume less and save more?

57. The following data are given for an economy :

GDP at factor cost = 10,000
Net current account balance = – 500
Gross investment = 2,000
Net factor incomes from abroad = – 800
Depreciation = 1,000
Net indirect taxes = 1,300

Calculate the following :

(a) GDP at market prices

(b) GNP at market prices

(c) Gross savings

(d) Net savings

(e) NNP at factor cost

58. Other things remaining the same, what will be the effect of an increase in unilateral transfers from the rest of the world on a country's national income and its disposable income? Explain your answer.

59. Four students *A*, *B*, *C*, *D* competed in mathematics, logic, literature and economics contests, and each one of them won one contest. Below are given the forecasts made by these students :

(a)   *D* will win the logic contest

(b)   *C* will win the economics contest

(c)   *A* will not win the mathematics contest

(d)   *B* will win the literature contest

It turned out that the forecasts made by the winners of the literature and economics contests were wrong; and those made by the winners of the mathematics and logic contests were right.

Who won which contest?

60. Answer any *one* of the following in not more than *500* words :

(a) What have been the impacts of the Mahatma Gandhi National Rural Employment Guarantee Programme on the rural economy of India? Explain your answer.

(b) Would you agree that export-oriented growth is the best strategy for India in the current situation? Why?

(c) Write an essay on the relevance of 'inflation targeting' for the Indian economy.

(d) Discuss the rationale of the strategy of import substituting industrialization in India during the 1950s and 1960s.

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SPACE FOR ROUGH WORK

/30-**A**

29

[P.T.O.

/30-**A**

SPACE FOR ROUGH WORK

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