

# INDIAN INSTITUTE OF FOREIGN TRADE

## M.A. ECONOMICS (SPECIALIZATION IN TRADE AND FINANCE) ADMISSION TEST - 2019

ROLL NO. \_\_\_\_\_

NAME \_\_\_\_\_

SIGNATURE \_\_\_\_\_

Time: 3 hours

Marks: 100

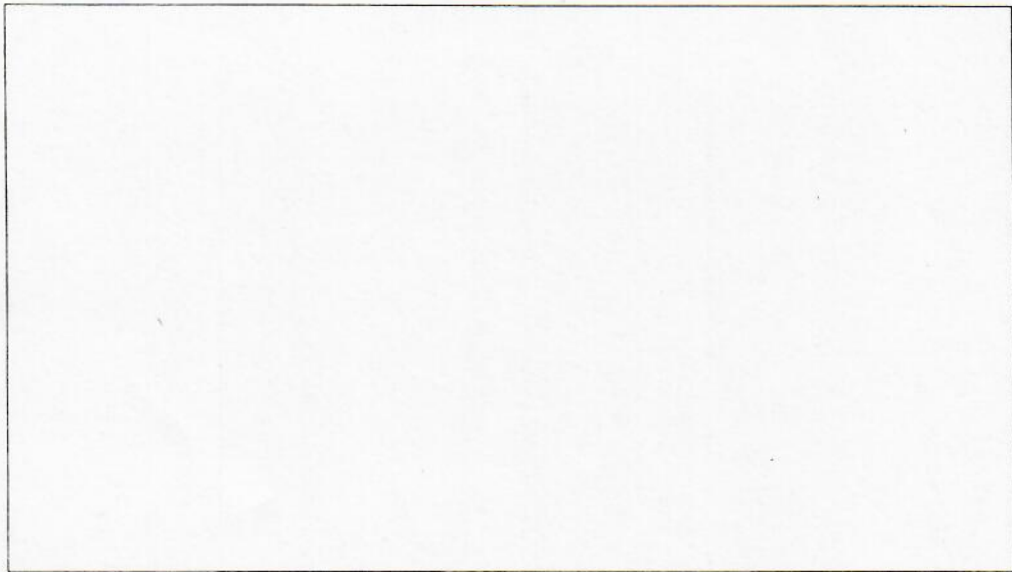
### INSTRUCTIONS:

- (a) This is a **Question-cum-Answer Booklet**.
- (b) This Booklet has **two parts: Part 1 has 37 multiple choice questions** carrying 1 and 2 marks and **Part II has 7 descriptive questions** carrying 10 marks each.
- (c) A student has to **answer all questions in Part 1** (total marks 50) and **any 5 Questions in Part II** (total marks 50)
- (d) There will be **one-fourth negative mark** for every wrong answer in Part -1.
- (e) **Roll Number, Name and Signature** must be indicated clearly in the space provided in **this Booklet**.
- (f) For multiple choice questions, students are instructed to **mark the right answer with a cross using a HB pencil in the coding sheet**. Candidates also need to write **Roll No, Name on the coding sheet and provide signature**.
- (g) **Descriptive questions must be answered strictly in the space provided with a ballpoint pen. No extra sheet shall be provided under any circumstances.**
- (h) Answers to descriptive questions should be **analytical** and based on **appropriate economic theories**. Students are encouraged to draw appropriate diagrams and use mathematical models wherever applicable.
- (i) Use of calculators, slide rules, weight / measurement tables, etc. is not permitted,
- (j) No stray marks should be made any whereon this Booklet. **Rough Work** can be done in the space provided **at the end of this Booklet**.
- (k) **This Booklet must be submitted to the invigilator at the end of the examination.**
- (l) No clarifications of any sort regarding the questions are permitted in the Examination Hall.

**Indian Institute of Foreign Trade**  
**MA (Economics - Specialization in Trade and Finance) 2019-21**

**Admission Test 2019**

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**DO NOT WRITE ANYTHING**

CODING SHEET for PART-I

(Multiple Choice Questions)

Mark the right answer with a cross using a HB pencil

Name:					Roll No:					Signature:				
Q. No	OPTIONS					Q. No	OPTIONS							
1	A	B	C	D		14	A	B	C	D				
2	A	B	C	D		15	A	B	C	D				
3	A	B	C	D		16	A	B	C	D				
4	A	B	C	D		17	A	B	C	D				
5	A	B	C	D		18	A	B	C	D				
6	A	B	C	D		19	A	B	C	D				
7	A	B	C	D		20	A	B	C	D				
8	A	B	C	D		21	A	B	C	D				
9	A	B	C	D		22	A	B	C	D				
10	A	B	C	D		23	A	B	C	D				
11	A	B	C	D		24	A	B	C	D				
12	A	B	C	D		25	A	B	C	D				
13	A	B	C	D		26	A	B	C	D				
						27	A	B	C	D				
						28	A	B	C	D				
						29	A	B	C	D				
						30	A	B	C	D				
						31	A	B	C	D				
						32	A	B	C	D				
						33	A	B	C	D				
						34	A	B	C	D				
						35	A	B	C	D				
						36	A	B	C	D				
						37	A	B	C	D				



Part -1 (Multiple Choice Questions)

Choose the correct alternative:

1) Suppose  $n$  is a positive integer. Then  $(n^2 + n)(2n+1)$  (2 marks)

- a) May not be divisible by 2
- b) Is always divisible by 2 but may not be divisible by 3
- c) Is always divisible by 6
- d) Is always divisible by 3 but may not be divisible by 6

2) A bank offers a scheme wherein deposits made for 16000 days are doubled in value, the interest being compounded daily. The interest accrued on a deposit of Rs. 1000/- over the first 400 days would be (2 marks)

- a) Rs. 250
- b) Rs. 183
- c) Rs. 148
- d) Rs. 190

3) The base of a triangle is 4 cm longer than its altitude. If the area of the triangle is 48 sq.cm, then find its base and altitude. (2 marks)

- a) 8, 12 ✓
- b) 12, 8
- c) 24, 16
- d) 16, 24 ✓

4) The second order partial derivative of  $z = 10x^3 + 6y^2 + 8xy + 7$  is given by: (2 marks)

- a)  $f_{xx} = 30x, f_{yy} = 6y, f_{xy} = 8$
- b)  $f_{xx} = 60x, f_{yy} = 12, f_{xy} = 8$
- c)  $f_{xx} = 30xy, f_{yy} = 8y, f_{xy} = 6$
- d) None of the above

5) An urn contains 5 red and 2 green balls. A ball is drawn. If it is green, a red ball is added to the urn and if it is red, a green ball is added to the urn. (The original ball is not returned to the urn.) Then a second ball is drawn. What is the probability the second ball is red? (2 marks)

- a)  $10/49$
- b)  $32/49$
- c)  $35/49$
- d) none of the above

6) Find the probability of four sixes and then another number in five random rows of a balanced die. (2 marks)

- a)  $6/2971$
- b)  $3/1253$
- c)  $5/7776$
- d) None of the above

7) A die is loaded in such a way that each odd number is twice as likely to occur as each even number. Find Prob.(G) where G is the event that a number greater than three occurs on a single roll of the die. (2 marks)

- a)  $1/9$
- b)  $4/9$
- c)  $7/9$
- d)  $11/19$

8) Consider utility function  $U(x_1, x_2) = \min\{x_1, x_2\} + \max\{x_1, x_2\}$  where  $x_1, x_2 \geq 0$ . The prices of the two commodities are 1 and 4 respectively and the consumer's income is 120. Which of the following is true? (2 marks)

- a) At the optimum the consumer should consume 120 units of commodity 1 and none of commodity 2.
- b) At the optimum the consumer should consume 30 units of commodity 2 and none of commodity 1.
- c) At the optimum the consumer should consume 24 units of commodity 1 and 24 units of commodity 2.
- d) At the optimum the consumer should spend equal amount on each commodity.

9) Consider two firms, 1 and 2, producing a homogeneous product with the firm 2 exercising leadership in choosing quantity over firm 1. The marginal cost of production is  $c$  and the market demand for the product is  $Q=a-bp$  where  $q$  is the quantity demanded at price  $p$  and  $a, b, c > 0$ . In equilibrium (2 marks)

- a) both firms produce the same quantity, equal to  $(a-c)/3b$
- b) firm 1 produces more than firm 2
- c) firm 2 produces more than firm 1
- d) both firms produce the same quantity, equal to  $(a-c)/2b$

10) A garment firm, given the plant size, labour and other raw materials availability, can produce output in two lines in various proportions. If  $x$  square meters of one line is produced per year, then  $y = 55 - \frac{700}{40-x}$  ( $x < 40$ ) square meters per year represents the other production line. What kind of curve is represented by this transformation contour? (2 marks)

- a) Circle
- b) Parabola
- c) Ellipse
- d) Rectangular Hyperbola

11) Consider the Solow growth model of an economy which experiences technological progress at the rate  $g$  and the labour force grows at the rate of  $n$ . At the steady state equilibrium, (2 marks)

- a) total output is increasing at the rate  $100n\%$
- b) per-capita output is increasing at the rate  $100(n+g)\%$
- c) total output is growing at the rate  $100(n+g)\%$
- d) total output is increasing at the rate  $100g\%$

12) Suppose, in an economy, the demand for capital is given by  $K_d = 80 - 8r$  whereas the supply of capital is given by  $K_s = 6r + 10$ , where  $r$  denotes the price of capital. Suppose the capital price is flexible and the total capital endowment in this economy is 50 units. Then the units of unutilized capital in this economy is: (2 marks)

- a) 5
- b) 30
- c) 20
- d) 10



13) Let us say that the production function is given by  $Y_t = K_t^\alpha L_t^{1-\alpha}$ ;  $0 < \alpha < 1$  (where  $Y_t$  denotes aggregate output,  $K_t$  denotes physical capital and  $L_t$  denotes labour force. Now assume that the savings in the economy are given by the rental income and the wage income is consumed, then the non-trivial steady state for capital per capita in the economy will be given by  $k^*$  (2 marks)

- a)  $\left[ \frac{n_1 + \delta}{s} \right]^{\frac{1}{\alpha-1}}$
- b)  $\left[ \frac{n_1 + \delta}{s} \right]^{\frac{1}{\alpha}}$
- c)  $\left[ \frac{n_1 + \delta}{\alpha} \right]^{\frac{1}{\alpha-1}}$
- d)  $\left[ \frac{n_1 + \delta}{\alpha} \right]^{\frac{1}{\alpha}}$

14) If  $x^n - 1$  is divisible by  $x - k$ , then the least positive integral value of  $k$  is: (1 mark)

- a) 1
- b) 2
- c) 3
- d) 4

15) Let  $A$  be an  $m \times n$  matrix. A homogeneous system of equations  $Ax = 0$  will have infinitely many solutions if the following holds: (1 mark)

- a)  $m=n$
- b)  $m < n$
- c)  $m > n$
- d) all of the above

16) If the 95th percentile of a normal distribution with mean  $\mu$  and standard deviation  $\sigma$  is  $x_1$ , then the distance of  $x_1$  from  $\mu$  is (1 mark)

- a)  $1.645 \sigma$
- b)  $2.33 \sigma$
- c)  $1.96 \sigma$
- d)  $1.28 \sigma$

17) A biased coin, with probability of obtaining a head equal to  $p > 0$ , is tossed repeatedly and independently until the first head is observed. The probability that the first head appears at an even numbered toss is (1 mark)

- a)  $(1-p)/(2-p)$
- b)  $p/(2-p)$
- c)  $1/2p$
- d)  $p/(1-p)$

- 18) Which of the following would indicate that a dataset is not bell-shaped? (1 mark)
- a) The range is equal to 5 standard deviations.
  - b) The range is larger than the interquartile range.
  - c) The mean is much smaller than the median.
  - d) There are no outliers.
- 19) What is the probability that the additional day in a leap year is a Sunday? (1 mark)
- a) 1/5
  - b) 1/7
  - c) 1/9
  - d) 1/11
- 20) For a competitive firm whose technology exhibits constant returns to scale at all levels of output, the long-run level of profits is always (1 mark)
- a) negative
  - b) one
  - c) zero
  - d) greater than one
- 21) Pareto efficiency can be achieved under monopoly if the monopolist practices (1 mark)
- a) First-degree price discrimination
  - b) Third-degree price discrimination
  - c) Second-degree price discrimination
  - d) No price discrimination
- 22) A CES production function is given by  $Q = A[\delta K^{-\rho} + (1 - \delta)L^{-\rho}]^{-\frac{1}{\rho}}$ . The production function is homogeneous of degree: (1 mark)
- a) 1
  - b) 0.75
  - c) 1.5
  - d) Cannot be determined



23) The per day cost function of a bakery firm for producing  $x$  units of breads is given by  $3\sqrt{30x - 155} + 70$ . It can be said that the average cost decreases after output crosses \_\_\_\_\_.  
(1 mark)

- a) 4.9 units
- b) 6.2 units
- c) 5.1 units
- d) 3.7 units

24) Let  $n_1$  increase to  $n_2$  then the rates of growth of output and per capita output will (1 mark)

- a) Both increase
- b) Both decrease
- c) Output grows at a faster rate but output per capita grows at the same rate
- d) Output grows at the same rate but output per capita grows at a faster rate

25) In the standard IS-LM framework, assume that the investment is autonomous, then the IS curve will be (1 mark)

- a) Horizontal
- b) Vertical
- c) Upward Sloping
- d) Downward Sloping

26) In the above case, the effectiveness of fiscal policy in the AD-AS space with an upward sloping AS curve will be (1 mark)

- a) Not effective
- b) Completely effective
- c) Effective but there is some fall in output due to increase in prices
- d) Effective but there is some fall in output due to increase in interest rates

27) In the context of the "Impossible Trinity" or the inability to achieve simultaneously the goals of exchange rate stability, full financial integration, and monetary independence, if a country chooses to have a pure float exchange rate regime, which of the three goals is the country most able to achieve. (1 mark)

- a) monetary independence and exchange rate stability
- b) exchange rate stability and full financial integration
- c) full financial integration and monetary independence
- d) A country cannot attain any of the exchange rate goals with a pure float exchange rate regime

28) Which of the following is not true about Lewis Model: (1 mark)

- a) the wages in industrial sector remain constant
- b) the urban wages are at least 30% higher than average rural wage
- c) unlimited supplies of labour at the prevailing subsistence wages
- d) capitalists reinvest their profits in the labor-saving capital equipment

29) Which model argues "Despite mass unemployment in cities people are migrating from villages to towns and cities"? (1 mark)

- a) Lewis model
- b) Fei-Ranis model
- c) Todaro model
- d) Malthus model

30) Features of informal markets do not include (1 mark)

- a) Informational constraints
- b) Segmentation
- c) Interlinkages
- d) No transaction cost

31) Which of the following is appropriate to measure well off of a country? (1 mark)

- a) GDP per capita
- b) GDP per worker
- c) Worker-population ratio
- d) Worker-labour force ratio

32) Unproductive activities that involve the use of law or govt. institutions to bring private benefits are called (1 mark)

- a) Rent seeking
- b) Shadow pricing
- c) Adverse selection
- d) Moral hazard

33) Suppose  $a_{L1} = 5$  and  $a_{K1} = 6$  and  $a_{L2} = 1$  and  $a_{K2} = 4$ , where  $a_{ij}$  is the amount of ith factor required to produce 1 unit of commodity j. Which good (Good 1 or Good 2) is relatively labour intensive? (1 mark)

- a) Good 1
- b) Good 2
- c) Good 1 and Good 2 have same relative labour intensity
- d) Data is insufficient to calculate

34) Suppose  $a_{L1} = 5$  and  $a_{L2} = 1$  and  $a^*_{L1} = 10$  and  $a^*_{L2} = 6$ , where  $a_{ij}$  is the amount of  $i$ th factor required to produce 1 unit of commodity  $j$ . \* denotes the foreign country. Then (1 mark)

- a) The home country exports Good 1 and foreign country exports Good 2
- b) The home country exports Good 2 and foreign country exports Good 1
- c) Both countries export the same good
- d) Data is insufficient to calculate

35) For a large open economy, the optimum tariff is (1 mark)

- a) Zero
- b) Positive
- c) Negative
- d) Any one of the above

36) The revenue maximizing tariff is (1 mark)

- a) above the welfare maximizing tariff
- b) below the welfare maximizing tariff
- c) can be above or the welfare maximizing tariff
- d) independent of the welfare maximizing tariff

37) The internal rate of return: (1 mark)

- a) is unrelated to the present discounted value of a financial asset
- b) is the return that makes the present discounted value of a financial asset exactly equal to zero
- c) is the return that makes the present discounted value of a financial asset positive
- d) None of the above



Part – II (Descriptive Questions)

Answer any five questions. Each question carries 10 marks. All answers must be answered in pen

- 1) Suppose that Intel has a monopoly in the market for computer chips. In order to produce  $X$  computer chips, it costs Intel  $C(X) = 2X^2$ .
  - a) Find the marginal cost of producing a computer chip for Intel.
  - b) The demand for computer chips is  $X_D = 12 - 0.25P$ . Find the level of output that maximizes Intel's profits. What price is Intel charging?
  - c) What level of output would maximize total surplus in the computer chip market?
  - d) Suppose the government knew the demand and production functions. Find a price regulation the government could impose that would induce Intel to maximize total surplus, i.e., produce the efficient quantity from part (c)
  - e) If the government subsidized Intel  $s$  for every unit of computer chips produced, what quantity would Intel choose? Find the choice of subsidy that maximizes total surplus, i.e., induces Intel to produce the efficient quantity from part (c).
  - f) Both the price regulation policy from part (d) and the subsidy policy from part (e) maximize total surplus. Is there any reason someone might prefer one policy over the other?

Answer:

- 2) Use the open economy version of the IS-LM model to explain the possible effects of BREXIT on the British economy.

Answer:

- 3) The Trump Wall or simply the Wall is a proposed expansion of the fence that makes up the Mexico-United states barrier during the Presidency of Donald Trump. Throughout his 2016 Presidential campaign, Trump called for the construction of a much larger and fortified border wall, claiming that if elected he would “build the wall and make Mexico pay for it”. Explain the economic circumstances under which Trump made such a promise. Use the Heckscher - Ohlin framework of international trade theory to explain the possible effects of Mexican immigration into US and consequences of a Wall that completely prevents such immigration.

Answer:



- 4) 'Influx of Chinese goods in India has created an overgrowing informal sector in India'. Critically evaluate the above statement by applying appropriate micro theoretic constructs that may seem relevant to you.

Answer:

5) (a) Using the IS-LM diagram, show the effects on output and the interest rate of a decrease in government spending. Can you tell what happens to investment and why? Describe the effect of decrease in government spending in words.

b) Now consider the following IS-LM model:

$$C = c_0 + c_1(Y - T);$$

$$I = b_0 + b_1Y - b_2i$$

$$M/P = d_1Y - d_2i$$

where the symbols have standard interpretation.

- (i) Solve for equilibrium output (assume  $c_1 + b_1 < 1$ ).
- (ii) Solve for the equilibrium interest rate.
- (iii) Under what conditions on the parameters of the model (i.e.  $c_0$ ;  $c_1$  and so on), will the equilibrium investment increase when  $G$  decreases.

Answer:

- 6) When petrol prices reached a price of 1.2\$ per litre, public policy makers considered cutting excise taxes by 0.1\$ per litre to lower prices for the consumer. In discussing the effects of the proposed tax reduction, a news commentator stated that the effect of tax reduction should lead to a price of about 1.1\$ per litre, and, that if the price did not drop by as much, it would be evident that oil companies are somehow conspiring to keep petrol prices high. Evaluate this claim using demand-supply analysis.

Answer:



- 7) According to a report, India's GDP is forecast to grow by 7.3 per cent in FY2018/19 and 7.5 per cent thereafter, in line with June forecasts. Private consumption is projected to remain robust and investment growth is expected to continue as the benefits of recent policy reforms begin to materialise and credit rebounds. Strong domestic demand is envisioned to widen the current account deficit to 2.6 per cent of GDP next year. Inflation is projected to rise somewhat above the midpoint of the Reserve Bank of India's target range of 2 to 6 per cent, mainly owing to energy and food prices.
- a) Use an appropriate model to explain the movement of price and GDP as forecasted in the above paragraph.
  - b) If RBI wants to control inflation what are the policy options?

Answer:

Rough Work: