# Sample Question Paper for MA Economics

**Format of the MA Entrance Test Paper**

The duration of the Entrance Test will be 2 hours and the question paper will consist of 40 multiple choice questions. Questions will cover the areas of microeconomics, macroeconomics, development economics, mathematics and statistics, respectively.

**Negative Marks for Wrong Answers**

If the answer given to any of the Multiple Choice Questions is wrong, ¼ of the marks assigned to that question will be deducted.

- This is only a sample paper and only meant to be indicative of the type of questions that will be asked.

Special Instructions:

1. Calculators and log tables may be used during the examinations.
2. Mobile phones are NOT allowed.

1. Which of the following countries has the highest per-capita income (in PPP dollars) within the SAARC?

   a. Nepal
   b. Bhutan
   c. Afghanistan
   d. Maldives

2. In the two-gap analysis of foreign aid, a country with a binding savings gap which of the following strategies does it need to bolster economic growth?

   a. Attract foreign aid
   b. Decrease imports
   c. Increase productive resources
   d. None of the above

3. Although micro-credit is often targeted at the poor, the rate of interest charged in such loans is usually much higher than that charged by commercial banks. This is primarily because :

   a. The micro-credit business is more profit-oriented than the commercial banks.
   b. The transaction cost per unit of loan is higher for micro-credit loans.

c. In the absence of a collateral, micro-credit loans are more risky than bank loans.

d. Both (b) and (c).

4. The Lewis model is considered to be a "classical" model of development because:

   a. The productivity of labour in the modern sector is higher than that in the traditional sector.
   b. The supply of labour in the economy is determined by a labour-leisure choice.
   c. There is unlimited supply of labour available for the modern sector at a given wage rate.
   d. All of the above.

5. If a country grows at 6 per cent annually for a period of three years, the head-count rate of poverty

   a. will fall by 18 per cent
   b. will fall by 6 per cent
   c. may rise, fall or remain the same
   d. will fall by more than 18 per cent

6. The Human Development Index constructed by the UNDP is based on the

   a. Basic needs approach
   b. Chronic poverty approach
   c. Capability approach
   d. Dependency theory

Answer questions 7 and 8 based on the following passage:

Markets are superb coordination mechanisms in harmonizing numerous non-cooperative interactions and in disciplining inefficiency and rewarding high value performance. But when incentives and control rights are misaligned (on account, say, of initial asset ownership differences constraining contractual opportunities), and there are important strategic complementarities in long-term investment decisions, markets fail to coordinate efficiently. The implications of 'imperfections' in, and sometimes the non-existence of, credit and insurance markets are severe for the poor, sharply reducing a society's potential for productive investment, innovation, and human resource development. The state can provide leadership for (and put selective incentives and pressure on)

individuals interacting cooperatively in situations where non-cooperative interactions are inefficient. But the state officials may have neither the information nor the motivation to carry out this role; they may be inept or corrupt, and the political accountability mechanisms are often much too weak to discipline them. In the context of these pervasive market and government failures it is often pointed out that a local community organization, if it has stable membership and well-developed mechanisms of transmitting private information and enforcing social norms among its members, has the potential to provide sometimes more efficient coordination than either the state or the market. But community organizations 'fail' too when they are 'captured' by elite (or sectarian) interests, or are hamstrung by the secession of the rich and the talented from local communities, and they may face covariate risks and costs of small scale.

[from *Institutional Economics of Development: Some General Reflections* by Pranab Bardhan in in T. Besley and R. Jayaraman (eds.), *Institutional Microeconomics of Development*, MIT Press, 2010.]

7. According to the author, which allocative mechanism is free from the risk of coordination failure?

    a. Market
    b. State
    c. Community
    d. None of the above

8. Which of the following is <u>not</u> a source of government failure?

    a. Inadequate information
    b. Lack of private incentive for public action
    c. Externalities
    d. Weak accountability

9. A consumer's utility function is given by U=3x+y for two goods x and y. Per-unit price of x and y are Rupees 30 each. The total income of the consumer is Rupees 900. The equilibrium consumption bundle (x,y) of the consumer will be:
    a. (30,0)
    b. (0, 30)
    c. (15,15)
    d. None of the above

10. Mr. X's total wealth next year, including his factory, is estimated to be Rupees 6,00,000. There is a 20 per cent chance that an accident in the factory, valued at

Rupees 3,00,000, will completely ruin it next year.  Mr. X's expected wealth next year, if he does not purchase hazard insurance for his factory is likely to be:
   a.   Rupees 6,00,000
   b.   Rupees 5,20,000
   c.   Rupees 5,40,000
   d.   None of the above

11. Consider a competitive industry where the market demand is  given by P = 50-Q. The marginal cost function is simply MC= Q. If the government imposes a tax of 10 rupees per unit of production of this good, the equilibrium market price will go up by:

   a.   zero rupees
   b.   10  rupees
   c.   20   rupees
   d.   5 rupees

12. Two kinds of consumers exist for a product Z in a market. One kind of consumer has an intense liking for the product, with an inverse demand curve of P=20-Q, where P is price of Z and Q is the quantity of Z. The other type of consumer has a less intense liking for the product and has an inverse demand P=5-(1/2)*Q.  Suppose that there are only two consumers in the market, one of each type. The market demand curve for Z will be:
   a. Q=p for all price levels p.
   b. Q=30-3P for all price levels $p > 5$ and Q=20-P for p≤5
   c. Q=15-3P for all price levels $p \leq 5$ and Q=20-P for p>5.
   d. Q=30-3P for all price levels $p \leq 5$ and Q=20-P for p>5

13. Consider a Leontief production function Q = Min (K/2, L/3). Price of K is 3 and price of L is 2. If the firm intends to produce 40 units, the cost minimizing K,L combination will be:
   a.   (30,40)
   b.   (20,30)
   c.   (80,120)
   d.   (120,80)

14. The production function of a monopolist firm is given by Q=10L-0.5L$^2$, where L is labour input and Q is output. If the demand curve is P(Q)= 50-0.5Q, what is the marginal revenue product of labour curve?
   a.   $500+150L-15L^2$
   b.   $500-150L+15L^2-0.5L^3$
   c.   $50-Q$
   d.   None of the above

15. Consider an exchange economy with two consumers and two goods. Total stock of both commodities is equal. Suppose the two commodities are perfect substitutes for both consumers. Then the set of Pareto optimal points will be

a. the diagonal of the Edgeworth Box
b. the horizontal axis of the Edgeworth Box
c. the vertical axis of the Edgeworth Box
d. the entire Edgeworth Box


16. Let the production function be given by $Q = AK^{\alpha}L^{\beta}$ where $\alpha+\beta = 1$. Consider Marginal products of K (MP$_K$) and L (MP$_L$). Which one of the following statements is true about MP$_K$ and MP$_L$?

    a. MP$_K$ and MP$_L$ are equal
    b. MP$_K$ and MP$_L$ are homogeneous of degree zero
    c. MP$_K$ and MP$_L$ are independent of K and L
    d. MP$_K$ and MP$_L$ are same as Average Products.


17. Suppose a person lives for two periods. His current period income is Rs. 42,000 and he possesses an asset worth Rs. 18000. His future income is expected to be Rs. 33000 and the real rate of interest at which he can borrow or save is 10 percent. His current and future maximum consumption will be

    a. Rs. 90000 and Rs. 99000
    b. Rs. 42,000 and Rs. 33000
    c. Rs. 75,000 in both the periods
    d. Rs. 60000 and Rs. 51000

Next TWO questions are based on the following information

Consider an economy where the nominal wage rate is set by a process of wage bargaining between the workers and the producers before actual production takes place. As an outcome of this process of bargaining, in any period t, the nominal wage rate, $W_t$ is a function of the expected price level, $P_t^e$ , the rate of unemployment, $u_t$ (representing the relative bargaining power of the workers vis-à-vis the employers) and the averegae productivity of the workers, $A_t$, i.e. $W_t = P_t^e F\ (u_t, A_t)$; $F_u < 0, F_A > 0$. Once the nominal wage is determined, the producers set the actual price level, $P_t$, as a constant mark-up $\mu$ over the nomial wage –rate: $P_t= (1 + \mu)\ W_t$. The actual rate of inflation is defined as $\pi_t \equiv (P_t - P_{t-1})\ /P_{t-1}$ and the expected rate of inflation as $\pi_t^e \equiv (P_t^e - P_{t-1})\ /P_{t-1}$.

18. Given the above wage and price setting equations, derive the relationship between the expected rate of inflation and the actual rate of inflation. Which of the following equations represents this relationship?

    a. $\pi_t = \pi_t^e\ (1 + \mu)F\ (\mu_t, A_t)$
    b. $\pi_t = (1 + \pi_t^e)\ (1 + \mu)F\ (\mu_t, A_t) - 1$
    c. $\pi_t = (1 + \pi_t^e)\ [F\ (\mu_t, A_t) - \mu] - 1$
    d. None of the above

19. Suppose the average productivity of the workers remains constant at a level $\bar{A}$. Given the relationship in your answer to the previous question, the natural rate of unemployment is given by

    a. $F(u_t, \bar{A}) = \mu$
    b. $F(u_t, \bar{A}) = \dfrac{1}{1+\mu}$

c. $F(u_t, \bar{A}) = \frac{\mu}{1+\mu}$

d. None of the above

20. Suppose the following bilateral spot exchange rates are being quoted for the Afghan Afghani (AFN), Bangladeshi Taka (BDT) and Maldivian Rufiya (MVR):

BDT / MVR = 5.26

AFN / MVR = 4.54

AFN / BDT = 0.88

If you start with 100 MVR, the most you could end up with (in MVR) in a single round of trilateral arbitrage would be

    a. 93.33
    b. 98.08
    c. 101.96
    d. 102.67

Next TWO questions are based on the following information

Consider an economy where the aggregate output is produced by using two factors, $K$ and $L$, using a production function $Y = K^\alpha L^{1-\alpha}$. At every point of time, both factors are fully employed. A constant proportion $s$ of total output is saved and automatically invested at each point in time, leading to augmentation of capital stock. However, capital is also subject to depreciation at a rate $\delta$. Labor force grows at a constant rate $n$.

21. The steady-state level of per capita output is given by

    a. $s\left(\frac{K}{L}\right)^\alpha - \frac{(n+\delta)K}{L}$

    b. $\left(\frac{s}{n+\delta}\right)^{1/(1-\alpha)}$

    c. $\left(\frac{s}{n+\delta}\right)^{\alpha/(1-\alpha)}$

    d. cannot be determined from the given information

22. The optimal savings rate which will maximise the per capita consumption level at the steady-state is given by

    a. $\alpha$
    b. $n+\delta$
    c. $\alpha (n+\delta)$
    d. $\left(\frac{s}{n+\delta}\right)^{1/(1-\alpha)}$

23. The traditional Keynesian models dominant in the 1950s and 1960s suggested an inflation-unemployment trade-off. In other words, there was a social cost of disinflation in terms of higher level of unemployment. However, if agents form their expectations rationally in a forward-looking manner, and if policymakers follow a credible and dynamically consistent policy to reduce the rate of inflation, then it might be shown that policies to reduce inflation

    a. are ineffective.

b.     are effective with much lower social cost than predicted by the traditional Keynesian models.

c.     are effective only if monetary authorities do not announce their policies beforehand.

d.     might also reduce unemployment, and hence be doubly beneficial.

24. In an open economy with free capital flows, the Central Bank can control
   a. the rate of interest but not the exchange rate of its currency
   b. the exchange rate of its currency but not the rate of interest
   c. both the rate of interest as well as the exchange rate of its currency by simultaneously setting both of them
   d. either the rate of interest or the exchange rate of its currency but not both.

25. The slope of the line tangent to the graph of $y = ln(x^2)$ at $x = e^2$ is

   a) $1/e^2$

   b) $2/e^2$

   c) $1/e^4$

   d) $4/e^4$

26. If $f(x) = \frac{x-1}{x+1}$ for all 1, $x \neq -1$, then $f'(1) =$

   a) $-1$

   b) $-1/2$

   c) $0$

   d) $1/2$

27. The derivative of $f(x) = \frac{x^4}{3} - \frac{x^5}{5}$ attains its maximum value at $x =$

   a) $-1$

   b) $0$

   c) $1$

   d) $4/3$

28. If $f$ is a continuous function on $[ab$, which of the following is necessarily true?

   a) $f'$ exists on $(ab)$ .

   b)    If $f(x_0)$ is a maximum of $f$, then $f'(x_0)= 0$.

   c) The graph of $f'$ is a straight line.

d) $\lim\limits_{x \to x_0} f(x) = f\left(\lim\limits_{x \to x_0} x\right)$ for $x_0 \in (a, b)$

29. If the solutions of $f(x) = 0$ are $-1$ and 2, then the solutions of $f\left(\frac{x}{2}\right) = 0$ are

    a.   $-1$ and 2

    b.   $\frac{-1}{2}$ and 1

    c.   $-2$ and 4

    d.   $\frac{-1}{2}$ and $\frac{5}{2}$

30. Suppose that $f$ is a function that is defined for all real numbers. Which of the following conditions assures that $f$ has an inverse function?

    a.   The graph of $f$ is concave up.

    b.   The graph of $f$ is symmetric with respect to the $y$-axis.

    c.   The function $f$ is a strictly increasing function.

    d.   The function $f$ is continuous.

31. $\lim\limits_{x \to 2} \frac{\sqrt{x+2}}{x-3} =$

    a.   $-3$

    b.   2

    c.   $-2$

    d.   Does not exists

32. The system of equations $4x + 6y = 5$, $8x + 12y = 10$ has:

    a.   a unique solution

    b.   no Solution

    c.   infinitely many solutions

    d.   difficult to say

33. Consider a standard normally distributed variable, a *t*-distributed variable with *d* degrees of freedom, and an *F*-distributed variable with (1, *d*) degrees of freedom. Then which of the following statements is FALSE?
   a. The standard normal is a special case of the *t*-distribution, the square of which is a special case of the *F*-distribution.
   b. Since the three distributions are related, the 5% critical values from each will be the same.
   c. Asymptotically, a given test conducted using any of the three distributions will lead to the same conclusion.
   d. The normal and *t*- distributions are symmetric about zero while the *F*- takes only positive values.

34. A normal distribution has coefficients of skewness and excess kurtosis which are respectively
   a.   0 and 0
   b.   0 and 3
   c.   3 and 0
   d.   Will vary from one normal distribution to another

35. What result is proved by the Gauss-Markov theorem?

   a.   That OLS gives unbiased coefficient estimates
   b.   That OLS gives minimum variance coefficient estimates
   c.   That OLS gives minimum variance coefficient estimates only among the class of linear unbiased estimators
   d.   That OLS ensures that the errors are distributed normally

36. Which one of the following is NOT an assumption of the classical linear regression model?

   a. The explanatory variables are uncorrelated with the error terms.
   b. The disturbance terms have zero mean
   c. The dependent variable is not correlated with the disturbance terms
   d. The disturbance terms are independent of one another.

37. What is the relationship, if any, between the normal and *t*-distributions?

   a. A *t*-distribution with zero degrees of freedom is a normal
   b. A *t*-distribution with one degree of freedom is a normal
   c. A *t*-distribution with infinite degrees of freedom is a normal
   d. There is no relationship between the two distributions.

38. The type I error associated with testing a hypothesis is equal to

   a.   one minus the type II error
   b.   the confidence level
   c.   the size of the test
   d.   the size of the sample

39. The mean, median and mode for binomial distribution will be equal when

   a.  $p=0.5$
   b.  $p<0.5$

c. p>0.5

d. p=1

40. The collection of one or more outcomes from an experiment is called

    a. Probability
    b. Event
    c. Random Variable
    d. Random Experiment