Магистерская программа
«Финансы»

Демоверсия экзамена при поступлении в магистратуру Национального исследовательского университета «Высшая школа экономики» Санкт-Петербург

Quantitative session

1) (5 points) What is the sum of the digits of the positive integer n where n < 99?

(1) n is divisible by the square of the prime number y.
(2) y^4 is a two-digit odd integer.

   A. Statement 1 ALONE is sufficient to answer the question, but statement 2 alone is NOT sufficient.
   B. Statement 2 ALONE is sufficient to answer the question, but statement 1 alone is NOT sufficient.
   C. BOTH statements 1 and 2 TOGETHER are sufficient to answer the question, but NEITHER statement ALONE is sufficient
   D. Each statement ALONE is sufficient to answer the question.
   E. Statement 1 and 2 TOGETHER are NOT sufficient to answer the question.

The correct answer is C.

2) (5 points) If x is a positive integer, is x! + (x + 1) a prime number? (1) x < 10 (2) x is even

   A. Statement 1 ALONE is sufficient to answer the question, but statement 2 alone is NOT sufficient.
   B. Statement 2 ALONE is sufficient to answer the question, but statement 1 alone is NOT sufficient.
   C. BOTH statements 1 and 2 TOGETHER are sufficient to answer the question, but NEITHER statement ALONE is sufficient
   D. Each statement ALONE is sufficient to answer the question.
   E. Statement 1 and 2 TOGETHER are NOT sufficient to answer the question.

   The correct answer is E.

3) (5 points) Is $\sqrt{(x + y)}$ an integer?
(1) x3 = 64 (2) x2 = y – 3

   A. Statement 1 ALONE is sufficient to answer the question, but statement 2 alone is NOT sufficient.
   B. Statement 2 ALONE is sufficient to answer the question, but statement 1 alone is NOT sufficient.
   C. BOTH statements 1 and 2 TOGETHER are sufficient to answer the question, but NEITHER statement ALONE is sufficient
   D. Each statement ALONE is sufficient to answer the question.
   E. Statement 1 and 2 TOGETHER are NOT sufficient to answer the question.

The correct answer is C.

4) (3 points) How many prime numbers between 1 and 100 are factors of 7,150?
A. One
B. Two   C. Three
D. Four   E. Five

Answer: D.

Integrated Resoning

1) (4 points)

Trends in oil consumption in G20 countries (%/year)

Trends in gas consumption in G20 countries (%/year)

The change in the total production in the world has a positive trend. The largest amount of resources for production is used in countries G20
   A. True
   B. False
   C. Cannot be determined
   D. Statement is partly true, partly wrong

Answer: B.

2) (4 points) Someday plc is introducing a set of performance measures in its finance function. A key measure for the sales ledger part of the system is the number of invoices recorded per hour of employee time. The point of reference for this performance measure is
   A) Productivity
   B) Activity
   C) Profitability
   D) Economy

Answer: A.

3) (4 points)   The oil industry is an example of which kind of market structure?
   A) Perfect competition
   B) Monopoly
   C) Duopoly
   D) Oligopoly

Answer: D.

1) (5 points) Pap plc makes a single product with five operatives working five machines in a 35 hour week, for which they are paid £7.50 per hour. National insurance etc, adds

another £150 to the weekly labour bill. Last week the gross cost of labour was £1,950. In which internal source should the managers of Pap plc refer to identify why the bill was this size?

 A) The payroll
 B) The ledger accounts
 C) The machine logs
 D) The workers

Answer: A.