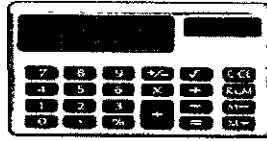


UNIVERSITY EXAMINATIONS



UNIVERSITEITSEKSAMENS
UNISA | 
university
of south africa

ECS2601

(490042)

October/November 2015

MICROECONOMICS

Duration 2 Hours

100 Marks

EXAMINERS
FIRST
SECOND

MS SY HO
MISS G MALULEKE

Use of a non-programmable pocket calculator is permissible

Closed book examination

This examination question paper remains the property of the University of South Africa and may not be removed from the examination venue

This paper consists of 18 pages, instructions for the completion of a mark-reading sheet and a special front page

STUDENT NUMBER									

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The unique number for ECS2601 is 490042.

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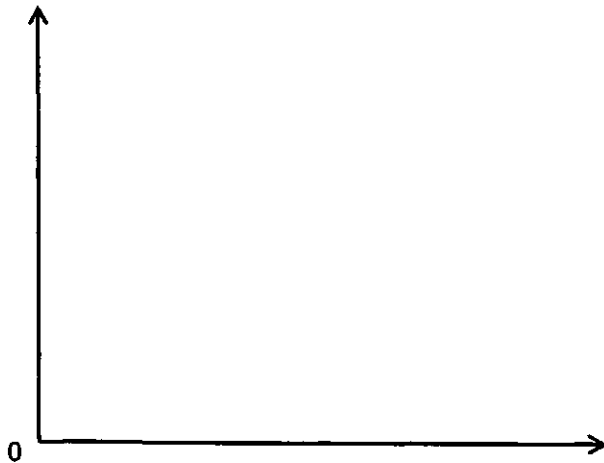
SECTION A

Candidates must answer QUESTION 1 and then **EITHER** QUESTION 2 **OR** QUESTION 3. If you do more than two questions, only the first 2 questions will be marked. All questions carry equal marks, namely 20 marks per question. Section A therefore counts 40 marks out of a total of 100.

QUESTION 1 (20 marks)

1 (a) Mana has a budget of R300. The price of food is R60 and the price of clothes is R30.

- (i) Draw a budget line, with food on the horizontal axis. (2)



- (ii) Suppose an indifference map exists, show her equilibrium point on the diagram above. (2)
- (iii) Which condition must be satisfied to gain equilibrium? (2)

[TURN OVER]

- (b) The South African Department of Agriculture is interested in analysing the domestic market for corn. The staff economists estimate the following equations for the demand and supply curves

$$Q_d = 1\,600 - 125P$$

$$Q_s = 440 + 165P$$

Quantities are measured in millions of bushels, prices are measured in rand per bushel

- (i) Calculate the equilibrium price and quantity that will prevail under a completely free market (4)

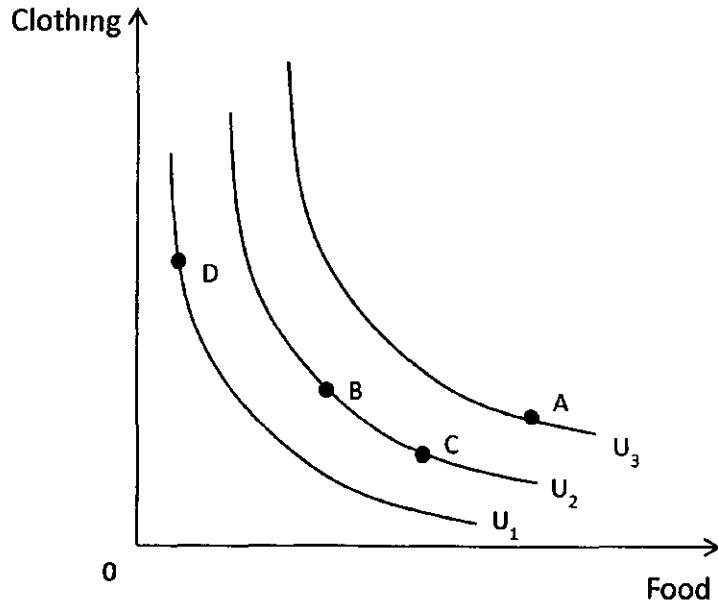
- (ii) Calculate the price elasticity of demand at the equilibrium values. (3)

- (iii) Calculate the price elasticity of supply at the equilibrium values (3)

[TURN OVER]

(c) Rank the bundles A, B, C and D in the indifference map below

(4)



[TURN OVER]

QUESTION 2 (20 marks)

- 2 (a) A firm's total cost function is given by the following equation

$$TC = 2000 + 6Q + 5Q^2$$

Write an expression for each of the following cost concepts

- (i) Total fixed cost (2)

- (ii) Total variable cost (2)

- (iii) Average variable cost (2)

- (iv) Average total cost (2)

- (v) Marginal cost (2)

[TURN OVER]

(vi) Determine the quantity that minimises average total cost (4)

(b) Suppose the supply curve for a good is completely inelastic. If the government imposed a price ceiling below the market-clearing level, would a deadweight loss result? Explain (6)

[TURN OVER]

QUESTION 3 (20 marks)

- 3 (a) A monopolist faces the following demand curve, marginal revenue curve, total cost curve and marginal cost curve for its product

$$Q = 200 - 2P$$
$$MR = 100 - Q$$
$$TC = 10Q$$
$$MC = 10$$

- (i) What is the profit maximising level of output? Show the calculation (4)

- (ii) What is the profit maximising price? Show the calculation (3)

- (iii) What is the total profit earned? Show the calculation (3)

[TURN OVER]

- (b) Describe the difference between the Cournot model and the Stackelberg model (4)

- (c) Two firms operating in the same market must choose between a collusion price and a cut price. Firm A's profit is listed in the table below before the comma and firm B's outcome after the comma. If each firm tries to choose a price that is best for it, regardless of the other firm's price, explain which actions would firm A and firm B choose (6)

	Firm B cuts	Firm B colludes
Firm A cuts	18,18	30,6
Firm A colludes	6,30	24,24

[TURN OVER]

SECTION B**SECTION B: MULTIPLE-CHOICE QUESTIONS**

In this section, **ALL** the questions must be answered on the attached **mark-reading sheet**. **Carefully follow the instructions for the completion of mark-reading sheets.** Also pay attention to the following

(i) Suppose a question reads as follows

1 A simultaneous increase in supply and demand must result in

- [1] a price increase
- [2] a price decrease
- [3] an increase in quantity
- [4] a change in the law of demand
- [5] None of the above

The correct statement is [3] and you must therefore mark [3] on the **mark-reading sheet**.

- (ii) Only one of the alternatives per question is correct. You must therefore not mark more than one alternative for each question.
- (iii) For each correct answer you will receive **two marks**. No marks will be deducted for incorrect answers.
- (iv) Section B consists of 30 questions and counts 60 marks out of a grand total of 100 marks.
- (v) **Place the completed mark-reading sheet in your examination book**

<p>Your mark-reading sheet may get lost and you MUST therefore also write down your answers for this section on page 18 in your examination book, for example 1 [4], 2 [3], 3 [1], etc.</p>
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[TURN OVER]

- 1 A consumer prefers market basket A to market basket B and prefers market basket B to market basket C. Therefore, A is preferred to C. The assumption that leads to this conclusion is
- [1] completeness
 - [2] diminishing MRS
 - [3] that all goods are good
 - [4] transitivity
 - [5] rationality
- 2 A consumer has R200 per day to spend on product A, which has a unit price of R7, and product B, which has a unit price of R20. What is the slope of the budget line if good A is on the horizontal axis and good B is on the vertical axis?
- [1] $-7/20$
 - [2] $-7/200$
 - [3] $-20/7$
 - [4] $7/20$
- 3 Pencils sell for R1 and pens sell for R5. Suppose Jack, whose preferences satisfy all of the basic assumptions, buys 5 pens and 1 pencil each semester. With this consumption bundle, his MRS of pencils for pens is 3. Which of the following is true?
- [1] Jack could increase his utility by buying more pens and fewer pencils
 - [2] Jack could increase his utility by buying more pencils and fewer pens
 - [3] Jack could increase his utility by buying more pencils and more pens
 - [4] Jack could increase his utility by buying fewer pencils and fewer pens
 - [5] Jack is at a corner solution and is maximising his utility
- 4 When someone consumes two goods (A and B), that person's utility is maximised when the budget is allocated such that
- [1] the ratio of the marginal utility of A to the price of A equals the ratio of the marginal utility of B to the price of B
 - [2] the marginal utility of A equals the marginal utility of B
 - [3] the marginal utility of A times the price of A equals the marginal utility of B times the price of B
 - [4] the ratio of total utility of A to the price of A equals the ratio of the marginal utility of B to the price of A
- 5 For an inferior good, the income and substitution effects
- [1] work together
 - [2] work against each other
 - [3] can work together or in opposition to each other depending upon their relative magnitudes
 - [4] always exactly cancel each other

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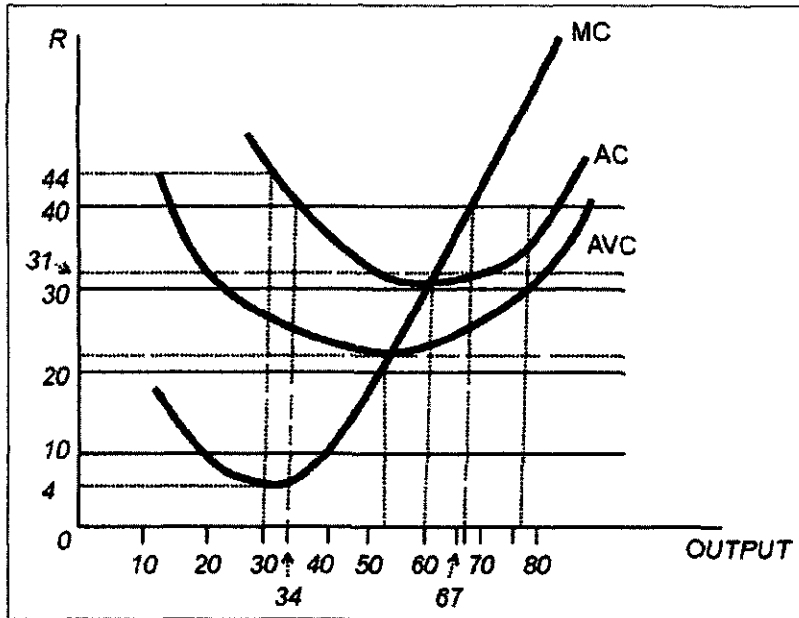
- 6 When labour usage is at 4 units, output is 48 units. From this we may infer that
- [1] the marginal product of labour is 12
 - [2] the total product of labour is 1/12
 - [3] the average product of labour is 12
 - [4] None of the above
- 7 In a short-run production process, the marginal cost is rising and the average variable cost is falling as output is increased. Thus,
- [1] average fixed cost is constant
 - [2] marginal cost is above average variable cost
 - [3] marginal cost is below average fixed cost
 - [4] marginal cost is below average variable cost
- 8 When the government controls the price of a product, causing the market price to be above the free market equilibrium price,
- [1] all producers gain
 - [2] both producers and consumers gain
 - [3] only consumers gain
 - [4] some, but not all, sellers can find buyers for their goods
- 9 A vertical demand curve is
- [1] completely inelastic
 - [2] infinitely elastic
 - [3] highly elastic
 - [4] highly inelastic
- 10 Which of the following is NOT an assumption regarding people's preferences in the theory of consumer behaviour?
- [1] Preferences are complete
 - [2] Preferences are transitive
 - [3] Consumers prefer more of a good to less
 - [4] Consumers have homogenous preferences
- 11 Suppose that the prices of good A and good B were to suddenly double. If good A is plotted along the horizontal axis,
- [1] the budget line will become steeper
 - [2] the budget line will become flatter
 - [3] the slope of the budget line will not change
 - [4] the slope of the budget line will change, but in an indeterminate way

[TURN OVER]

- 12 A consumer maximises satisfaction at the point where his valuation of good X, measured as the amount of good Y he would willingly give up to obtain an additional unit of X, equals
- [1] the magnitude of the slope of the indifference curve through that point
 - [2] one over the magnitude of the slope of the indifference curve through that point
 - [3] P_x/P_y
 - [4] P_y/P_x
- 13 The price of good A goes up. As a result, the demand for good B shifts to the left. From this, we can infer that
- [1] good A is a normal good
 - [2] good B is an inferior good
 - [3] goods A and B are substitutes
 - [4] goods A and B are complements
 - [5] None of the above
- 14 A function that indicates the maximum output per unit of time that a firm can produce, for every combination of inputs with a given technology, is called
- [1] an isoquant
 - [2] a production-possibility curve
 - [3] a production function
 - [4] an isocost function
- 15 Assume that a firm's production process is subject to increasing returns to scale over a broad range of outputs. Long-run average costs over this output will tend to
- [1] increase
 - [2] decline
 - [3] remain constant
 - [4] fall to a minimum and then rise
- 16 Marginal revenue, graphically, is
- [1] the slope of a line from the origin to a point on the total revenue curve
 - [2] the slope of a line from the origin to the end of the total revenue curve
 - [3] the slope of the total revenue curve at a given point
 - [4] the vertical intercept of a line tangent to the total revenue curve at a given point
 - [5] the horizontal intercept of a line tangent to the total revenue curve at a given point

[TURN OVER]

Figure 1: figure for questions 17 to 19



Consider the figure above where a perfectly competitive firm faces a price of R40 00

17 Refer to figure 1 The profit-maximising output is

- [1] 30
- [2] 54
- [3] 60
- [4] 67
- [5] 79

18 Refer to figure 1 At what output does the firm earn zero profit?

- [1] 0
- [2] 34 and 79
- [3] 54
- [4] 60
- [5] 67

[TURN OVER]

19 Refer to figure 1 At the profit-maximising level of output, AC is

- [1] R26 00
- [2] R30 00
- [3] R31 00
- [4] R40 00
- [5] R44 00

Consider the following scenario for questions 20 and 21: Yachts are produced by a perfectly competitive industry in Dystopia. Industry output (Q) is currently 30 000 yachts per year. The government, in an attempt to raise revenue, places a R20,000 tax on each yacht. Demand is highly, but not perfectly, elastic.

20 The result of the tax in the long run will be that

- [1] Q falls from 30 000, P rises by less than R20,000
- [2] Q falls from 30 000, P rises by R20,000
- [3] Q falls from 30 000, P does not change
- [4] Q stays at 30 000, P rises by R20,000
- [5] Q stays at 30 000, P rises by less than R20,000

21 The more elastic the demand for yachts

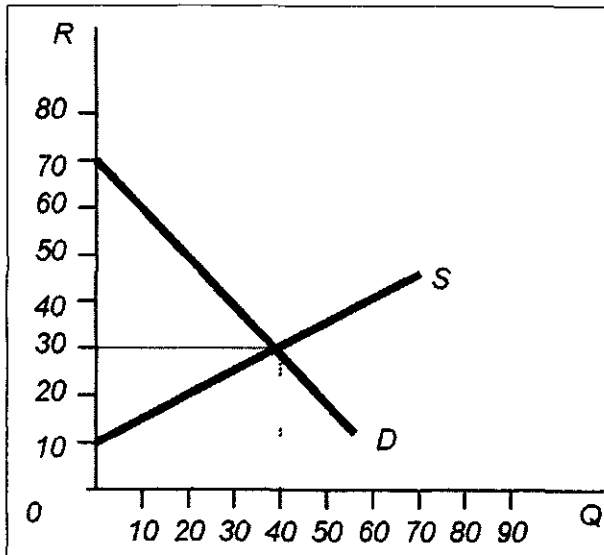
- [1] the more Q will fall and the more P will rise
- [2] the less Q will fall and the more P will rise
- [3] the more Q will fall and the less P will rise
- [4] the less Q will fall and the less P will rise
- [5] the closer the new equilibrium point will be to the old equilibrium point

22 Which of the following policies could lead to a deadweight loss?

- [1] Ceiling prices
- [2] Floor prices
- [3] Policies prohibiting free trade
- [4] All of the above
- [5] Only [1] and [2]

[TURN OVER]

Figure 2: figure for questions 23 to 26



- 23 Suppose the market in figure 2 is currently in equilibrium. If the government establishes a price floor of R40, how many of this product will be sold?
- [1] 20
[2] 30
[3] 40
[4] 50
[5] 60
- 24 Suppose the market in figure 2 is currently in equilibrium. If the government establishes a price ceiling of R50, consumer surplus will
- [1] fall by R50
[2] fall by R350
[3] remain the same
[4] rise by R50
[5] rise by R350
- 25 Refer to figure 2. If the government establishes a price floor of R40 and government purchases the surplus over quantity demanded, producer surplus will
- [1] fall by R275
[2] fall by R500
[3] remain the same
[4] rise by R275
[5] rise by R500

[TURN OVER]

- 26 Refer to figure 2. If the government establishes a price floor of R40 and government purchases the surplus over quantity demanded, the resulting deadweight loss will be
- [1] R15
 - [2] R10
 - [3] R1,050
 - [4] R1,200
 - [5] R2,400
- 27 If the regulatory agency sets a price where $AR = AC$ for a natural monopoly, output will be
- [1] equal to the competitive level
 - [2] equal to the monopoly profit-maximising level
 - [3] greater than the monopoly profit-maximising level and less than the competitive level
 - [4] greater than the competitive level
- 28 A form of price discrimination in which a seller charges different prices to groups that are differentiated by an easily identifiable characteristic, such as location, age, sex or ethnicity is called
- [1] first-degree price discrimination
 - [2] second-degree price discrimination
 - [3] third-degree price discrimination
 - [4] fourth-degree price discrimination
 - [5] price making
- 29 An electric power company uses block pricing for electricity sales. Block pricing is an example of
- [1] first-degree price discrimination
 - [2] second-degree price discrimination
 - [3] third-degree price discrimination
 - [4] None of the above
- 30 In the dominant firm model, the smaller fringe firms behave like
- [1] competitive firms
 - [2] Cournot firms
 - [3] Stackelberg firms
 - [4] Bertrand firms
 - [5] monopolists

[TURN OVER]

Your mark-reading sheet may get lost and you must therefore also write down your answers for section B in the space provided below

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

PART 1 (GENERAL/ALGEMEEN) DEEL 1

STUDY UNIT e.g. PSY100-X
 STUDIE-EENHEID by PSY100-X

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INITIALS AND SURNAME
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DATE OF EXAMINATION
 DATUM VAN EKSAMEN

PAPER NUMBER
 VRAESTELNOMMER

EXAMINATION CENTRE (E.G. PRETORIA)
 EKSAMENSENTRUM (BY PRETORIA)

STUDENT NUMBER
 STUDENTNOMMER

c0	c0	c0	c0	c0	c0	c0	c0	c0	c0
c1	c1	c1	c1	c1	c1	c1	c1	c1	c1
c2	c2	c2	c2	c2	c2	c2	c2	c2	c2
c3	c3	c3	c3	c3	c3	c3	c3	c3	c3
c4	c4	c4	c4	c4	c4	c4	c4	c4	c4
c5	c5	c5	c5	c5	c5	c5	c5	c5	c5
c6	c6	c6	c6	c6	c6	c6	c6	c6	c6
c7	c7	c7	c7	c7	c7	c7	c7	c7	c7
c8	c8	c8	c8	c8	c8	c8	c8	c8	c8
c9	c9	c9	c9	c9	c9	c9	c9	c9	c9

UNIQUE PAPER NO.
 UNIEKE VRAESTEL NR.

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c1	c1	c1	c1	c1	c1	c1	c1
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c5	c5	c5	c5	c5	c5	c5	c5
c6	c6	c6	c6	c6	c6	c6	c6
c7	c7	c7	c7	c7	c7	c7	c7
c8	c8	c8	c8	c8	c8	c8	c8
c9	c9	c9	c9	c9	c9	c9	c9

For use by examination invigilator
 Vir gebruik deur eksamenopsiener

- IMPORTANT**
- USE ONLY AN HB PENCIL TO COMPLETE THIS SHEET
 - MARK LIKE THIS
 - CHECK THAT YOUR INITIALS AND SURNAME HAS BEEN FILLED IN CORRECTLY
 - ENTER YOUR STUDENT NUMBER FROM LEFT TO RIGHT
 - CHECK THAT YOUR STUDENT NUMBER HAS BEEN FILLED IN CORRECTLY
 - CHECK THAT THE UNIQUE NUMBER HAS BEEN FILLED IN CORRECTLY
 - CHECK THAT ONLY ONE ANSWER PER QUESTION HAS BEEN MARKED
 - DO NOT FOLD
- BELANGRIK**
- GEBRUIK SLEGS N HB POTLOOD OM HIÉRDIE BLAD TE VOLTOOI
 - MERK AS VOLG
 - KONTROLEER DAT U VOORLETTERS EN VAN REG INGEVUL IS
 - VUL U STUDENTENOMMER VAN LINKS NA REGS IN
 - KONTROLEER DAT U DIE KORREKTE STUDENTENOMMER VERSTREK HET
 - KONTROLEER DAT DIE UNIEKE NOMMER REG INGEVUL IS
 - MAAK SEKER DAT NET EEN ALTERNATIEF PER VRAAG GEMERK IS
 - MOENIE VOU NIE

PART 2 (ANSWERS/ANTWOORDE) DEEL 2

1 c1 c2 c3 c4 c5	36 c1 c2 c3 c4 c5	71 c1 c2 c3 c4 c5	106 c1 c2 c3 c4 c5
2 c1 c2 c3 c4 c5	37 c1 c2 c3 c4 c5	72 c1 c2 c3 c4 c5	107 c1 c2 c3 c4 c5
3 c1 c2 c3 c4 c5	38 c1 c2 c3 c4 c5	73 c1 c2 c3 c4 c5	108 c1 c2 c3 c4 c5
4 c1 c2 c3 c4 c5	39 c1 c2 c3 c4 c5	74 c1 c2 c3 c4 c5	109 c1 c2 c3 c4 c5
5 c1 c2 c3 c4 c5	40 c1 c2 c3 c4 c5	75 c1 c2 c3 c4 c5	110 c1 c2 c3 c4 c5
6 c1 c2 c3 c4 c5	41 c1 c2 c3 c4 c5	76 c1 c2 c3 c4 c5	111 c1 c2 c3 c4 c5
7 c1 c2 c3 c4 c5	42 c1 c2 c3 c4 c5	77 c1 c2 c3 c4 c5	112 c1 c2 c3 c4 c5
8 c1 c2 c3 c4 c5	43 c1 c2 c3 c4 c5	78 c1 c2 c3 c4 c5	113 c1 c2 c3 c4 c5
9 c1 c2 c3 c4 c5	44 c1 c2 c3 c4 c5	79 c1 c2 c3 c4 c5	114 c1 c2 c3 c4 c5
10 c1 c2 c3 c4 c5	45 c1 c2 c3 c4 c5	80 c1 c2 c3 c4 c5	115 c1 c2 c3 c4 c5
11 c1 c2 c3 c4 c5	46 c1 c2 c3 c4 c5	81 c1 c2 c3 c4 c5	116 c1 c2 c3 c4 c5
12 c1 c2 c3 c4 c5	47 c1 c2 c3 c4 c5	82 c1 c2 c3 c4 c5	117 c1 c2 c3 c4 c5
13 c1 c2 c3 c4 c5	48 c1 c2 c3 c4 c5	83 c1 c2 c3 c4 c5	118 c1 c2 c3 c4 c5
14 c1 c2 c3 c4 c5	49 c1 c2 c3 c4 c5	84 c1 c2 c3 c4 c5	119 c1 c2 c3 c4 c5
15 c1 c2 c3 c4 c5	50 c1 c2 c3 c4 c5	85 c1 c2 c3 c4 c5	120 c1 c2 c3 c4 c5
16 c1 c2 c3 c4 c5	51 c1 c2 c3 c4 c5	86 c1 c2 c3 c4 c5	121 c1 c2 c3 c4 c5
17 c1 c2 c3 c4 c5	52 c1 c2 c3 c4 c5	87 c1 c2 c3 c4 c5	122 c1 c2 c3 c4 c5
18 c1 c2 c3 c4 c5	53 c1 c2 c3 c4 c5	88 c1 c2 c3 c4 c5	123 c1 c2 c3 c4 c5
19 c1 c2 c3 c4 c5	54 c1 c2 c3 c4 c5	89 c1 c2 c3 c4 c5	124 c1 c2 c3 c4 c5
20 c1 c2 c3 c4 c5	55 c1 c2 c3 c4 c5	90 c1 c2 c3 c4 c5	125 c1 c2 c3 c4 c5
21 c1 c2 c3 c4 c5	56 c1 c2 c3 c4 c5	91 c1 c2 c3 c4 c5	126 c1 c2 c3 c4 c5
22 c1 c2 c3 c4 c5	57 c1 c2 c3 c4 c5	92 c1 c2 c3 c4 c5	127 c1 c2 c3 c4 c5
23 c1 c2 c3 c4 c5	58 c1 c2 c3 c4 c5	93 c1 c2 c3 c4 c5	128 c1 c2 c3 c4 c5
24 c1 c2 c3 c4 c5	59 c1 c2 c3 c4 c5	94 c1 c2 c3 c4 c5	129 c1 c2 c3 c4 c5
25 c1 c2 c3 c4 c5	60 c1 c2 c3 c4 c5	95 c1 c2 c3 c4 c5	130 c1 c2 c3 c4 c5
26 c1 c2 c3 c4 c5	61 c1 c2 c3 c4 c5	96 c1 c2 c3 c4 c5	131 c1 c2 c3 c4 c5
27 c1 c2 c3 c4 c5	62 c1 c2 c3 c4 c5	97 c1 c2 c3 c4 c5	132 c1 c2 c3 c4 c5
28 c1 c2 c3 c4 c5	63 c1 c2 c3 c4 c5	98 c1 c2 c3 c4 c5	133 c1 c2 c3 c4 c5
29 c1 c2 c3 c4 c5	64 c1 c2 c3 c4 c5	99 c1 c2 c3 c4 c5	134 c1 c2 c3 c4 c5
30 c1 c2 c3 c4 c5	65 c1 c2 c3 c4 c5	100 c1 c2 c3 c4 c5	135 c1 c2 c3 c4 c5
31 c1 c2 c3 c4 c5	66 c1 c2 c3 c4 c5	101 c1 c2 c3 c4 c5	136 c1 c2 c3 c4 c5
32 c1 c2 c3 c4 c5	67 c1 c2 c3 c4 c5	102 c1 c2 c3 c4 c5	137 c1 c2 c3 c4 c5
33 c1 c2 c3 c4 c5	68 c1 c2 c3 c4 c5	103 c1 c2 c3 c4 c5	138 c1 c2 c3 c4 c5
34 c1 c2 c3 c4 c5	69 c1 c2 c3 c4 c5	104 c1 c2 c3 c4 c5	139 c1 c2 c3 c4 c5
35 c1 c2 c3 c4 c5	70 c1 c2 c3 c4 c5	105 c1 c2 c3 c4 c5	140 c1 c2 c3 c4 c5

Specimen only