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UNISA

ECS2601

OCTOBER/NOVEMBER 2014

MICROECONOMICS

STUDENT NUMBER									

IDENTITY NUMBER												

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Section	Marks					
	Examiners					
	1			2		
Total						

Subject

Number of paper

Date of examination

Examination centre

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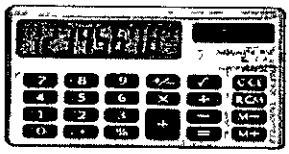

UNIVERSITEITSEKSAMENS

UNISA university of south africa

ECS2601 (496684) October/November 2014

MICROECONOMICS

Duration 2 Hours 100 Marks

EXAMINERS
FIRST MS SY HO
SECOND PROF B MOYO

Use of a non-programmable pocket calculator is permissible

Closed book examination

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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 496684

[TURN OVER]

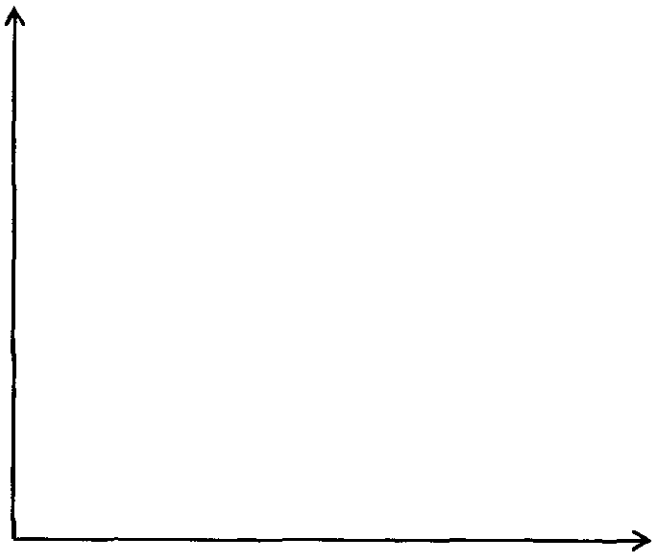
SECTION A

Candidates must answer question 1 **AND** one of either question 2 **or** question 3 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) Raymond has a budget of R200 The price of food is R20 and the price of clothes is R50

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



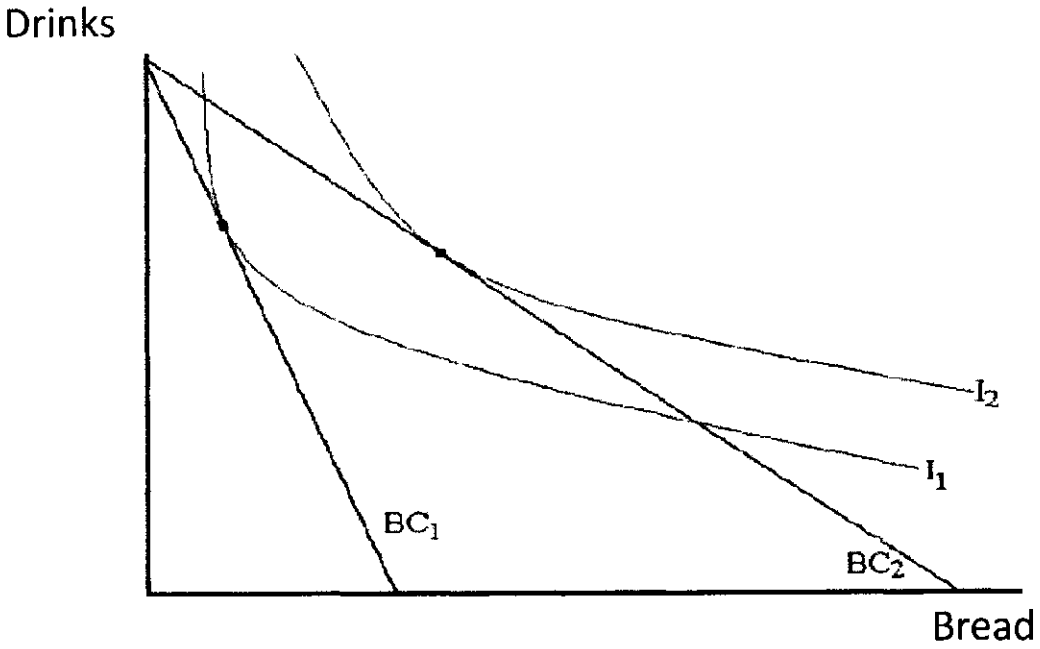
(ii) Suppose an indifference map exists, show his equilibrium point on the diagram above (2)

(iii) Which condition must be satisfied to gain equilibrium? (2)

(b) (i) Define the cross-price elasticity of demand (2)

(ii) The cross-price elasticity of demand for peanut butter in comparison with the price of jelly is –0 3 If we expect the price of jelly to decline by 15%, what is the expected change in the quantity demanded for peanut butter? Show your calculations (4)

(c) (i) The diagram below depicts the change in optimal consumption bundles for Mpho when the price of bread falls Decompose the change into the income and substitution effects Indicate the total effect, income effect and substitution effect in the diagram (6)



(ii) Do the income effect and substitution effect work in opposite directions? (2)

QUESTION 2 (20 marks)

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

$TC = 4\,000 + 5Q + 10Q^2$

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)

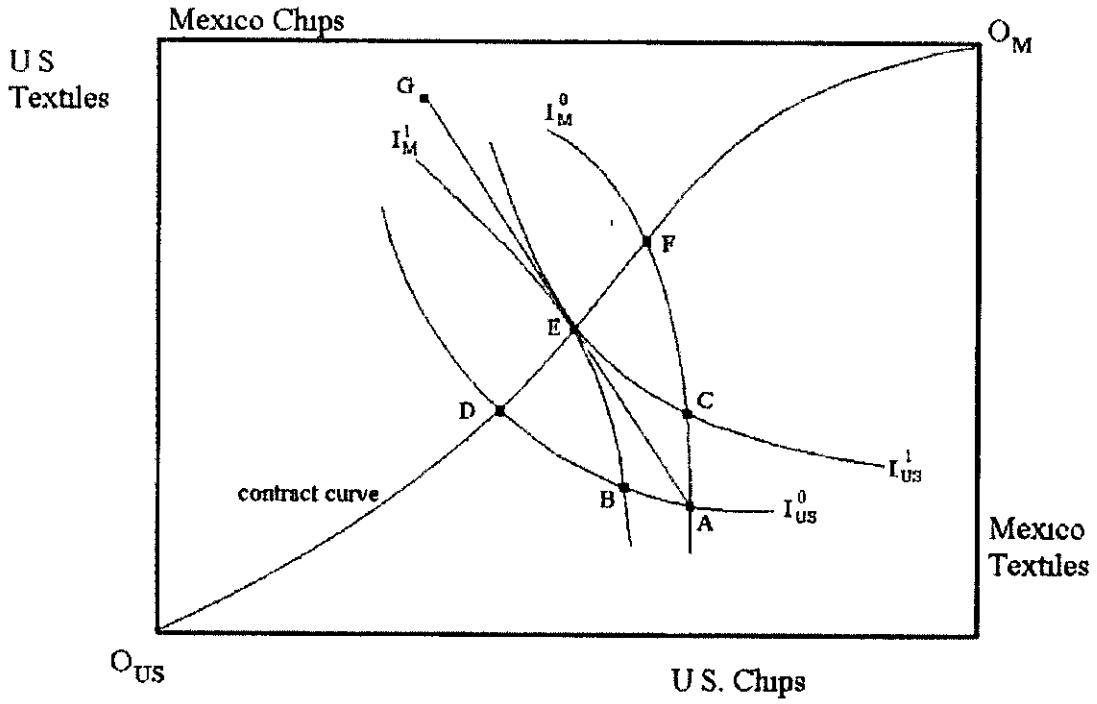
(v) Marginal cost (2)

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

(b) Explain the difference between returns to scale and economies of scale (6)

QUESTION 3 (20 marks)

3 (a) Refer to the diagram below to answer this question



(i) Suppose the Edgeworth box diagram above pertains to trade between Mexico and the US The consumption of computer chips and textiles in both countries is given by point A At point A, what is true regarding the relative price of computer chips in the US versus that in Mexico? (2)

(ii) If trade brings about the efficient equilibrium, which point in the diagram indicates the level of consumption by each country? (2)

(iii) At the new equilibrium, what has happened to the price of chips in Mexico? (2)

(iv) How do we know both countries are better off with free trade? (4)

(b) A monopolist faces the following demand curve, marginal revenue curve and marginal cost curve for his product

$P = 360 - 4Q$
$MR = 360 - 8Q$
$TC = 200 + 2Q^2$
$MC = 4Q$

(i) What level of output maximises the total revenue? Show calculation (3)

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

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

ROUGH WORK

SECTION B

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**

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.

THE FOLLOWING ABBREVIATIONS MAY APPEAR IN THIS SECTION:

P_x	=	price of good X	AR	=	average revenue
Q_B	=	quantity of good B	MR	=	marginal revenue
MRS	=	marginal rate of substitution	AP	=	average product
MRTS	=	marginal rate of technical substitution	MP	=	marginal product
MRT	=	marginal rate of transformation	TP	=	total product
MC	=	marginal cost	MU_A	=	marginal utility of good A
SAC	=	short-run average cost	TR	=	total revenue
LAC	=	long-run average cost	ACC	=	average constant cost
LTC	=	long-run total cost	TC	=	total cost
STC	=	short-run total cost	AVC	=	average variable cost
SMC	=	short-run marginal cost	TCC	=	total constant cost
LMC	=	long-run marginal cost	TVC	=	total variable cost

SECTION B MULTIPLE-CHOICE QUESTIONS

1 The price elasticity of demand for a demand curve that has a zero slope is

[1] zero
[2] one
[3] negative but approaches zero as consumption increases
[4] infinite

2 Other things being equal, the increase in rents that occurs after rent controls are abolished is larger when

[1] the own price elasticity of demand for rental homes is price inelastic
[2] the own price elasticity of demand for rental homes is price elastic
[3] the own price elasticity of demand for rental homes has unitary price elasticity
[4] rented homes and owned homes are complements
[5] rented homes and owned homes are substitutes

3 The assumption of transitive preferences implies that indifference curves must

[1] not cross one another
[2] have a positive slope
[3] be L-shaped
[4] be convex to the origin
[5] All of the above

4 Suppose that the prices of good A and good B suddenly fell by 50% 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

5 Pencils sell for 10 cents and pens sell for 50 cents Suppose Jack, whose preferences satisfy all of the basic assumptions, buys five pens and one 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 more pens
[3] Jack could increase his utility by buying fewer pencils and fewer pens
[4] Jack could increase his utility by buying more pencils and fewer pens
[5] Jack is at a corner solution and is maximising his utility

6 When someone consumes two goods (A and B), that person's utility is maximised when the budget is allocated such that

[1] the marginal utility of A equals the marginal utility of B
[2] the marginal utility of A times the price of A equals the marginal utility of B times the price of B
[3] 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
[4] the ratio of the total utility of A to the price of A equals the ratio of the marginal utility of B to the price of A

7 The change in the price of one good has no effect on the quantity demanded of another good These goods are

[1] complements
[2] substitutes
[3] both inferior
[4] both Giffen goods
[5] None of the above

8 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

9 Which of the following is true about the demand for petrol?

[1] It is probably more price elastic in the long run because price will increase by a higher percentage
[2] It is probably more price elastic in the short run because it is easier to find substitutes for petrol in the short run
[3] It is probably more price elastic in the long run because it is easier to find substitutes for petrol in the long run
[4] It is probably more price elastic in the short run because price will increase by a higher percentage

10 Which of these is an example of a negative network externality?

[1] bandwagon effect
[2] pollution
[3] snob effect
[4] two-part tariff

11 If input prices are constant, a firm with decreasing returns to scale can expect

[1] costs to double as output doubles
[2] costs to more than double as output doubles
[3] costs to go up less than double as output doubles
[4] to hire more and more labour for a given amount of capital, since the marginal product increases
[5] to never reach the point where the marginal product of labour is equal to the wage

12 In order for a taxicab to be operated in Johannesburg, it must have a medallion on its hood (bonnet) Medallions are expensive, but can be resold, and are therefore an example of

[1] a sunk cost
[2] a fixed cost
[3] a variable cost
[4] an implicit cost
[5] an opportunity cost

13 At the optimum combination of two inputs

[1] the slopes of the isoquant and isocost curves are equal
[2] costs are minimised for the production of a given output
[3] the marginal rate of technical substitution equals the ratio of input prices
[4] All of the above
[5] [1] and [3] only

14 If current output is less than the profit-maximising output, then the next unit produced

[1] will decrease profit
[2] will increase cost more than it increases revenue
[3] will increase revenue more than it increases cost
[4] will increase revenue without increasing cost

15 Higher input prices in a competitive market result in

[1] upward shifts of MC and reductions in output
[2] upward shifts of MC and increases in output
[3] downward shifts of MC and reductions in output
[4] downward shifts of MC and increases in output
[5] increased demand for the good the input is used for

16 Sharon decides that she would pay as much as R9 000 for a new iPhone She buys the iPhone and realises negative consumer surplus of R1 500 How much did Sharon pay for the iPhone?

[1] R9 000
[2] R1 500
[3] R10 500
[4] R7 500

17 Suppose James, Julius and Jacob all purchase a printer for their offices for R2 150 each James realises R350 as consumer surplus while Julius realises R150 and Jacob R550 How much was each of them willing to pay for the printer?

[1] James R2 500, Julius R2 300, Jacob R2 150
[2] James R2 350, Julius R2 700, Jacob R2 500
[3] James R2 200, Julius R2 700, Jacob R2 500
[4] James R2 500, Julius R2 300, Jacob R2 700

18 Suppose the market demand curve is $P = 10 - 2Q$ At a price of 6, consumer surplus equals

[1] 4
[2] 8
[3] 6
[4] 10
[5] 12

19 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 ethnic group 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

20 Le Roux's Christmas tree lot has a monopoly on sales of Christmas trees To increase his sales from 100 trees to 108 trees, he must drop the price of all his trees from R28 to R26 What is Le Roux's marginal revenue when he lowers his price and increases his sales from 100 to 108 trees?

[1] R2 808
[2] R28
[3] R26
[4] R8
[5] R1

21 Two friends, Paul and Peter, each own a Pick n Pay supermarket franchise They have identical constant marginal costs, but earn zero economic profits Therefore, Paul and Peter constitute

[1] a Sweezy oligopoly
[2] a Cournot oligopoly
[3] a Bertrand oligopoly
[4] None of the above

22 Which three of the following characteristics apply to oligopoly?

(a) A few large firms account for a high percentage of industry output
(b) Many small firms account for a high percentage of industry output
(c) Each firm faces a horizontal demand curve
(d) Each firm faces a downward-sloping demand curve
(e) The industry is often characterised by extensive non-price competition

[1] (a), (d) and (e)
[2] (a), (b) and (e)
[3] (a), (c) and (e)
[4] (a), (b) and (c)

23 In the Cournot duopoly model assumes that

[1] each firm decides what price to charge and that their rivals will not respond
[2] each firm decides what price to charge and that their rivals will respond
[3] each firm decides how much to produce and that their rivals will not respond
[4] each firm decides how much to produce and that their rivals will respond

24 The kinked demand curve model of oligopoly assumes that the elasticity of demand

[1] in response to a price increase is less elastic than the elasticity of demand in response to a price decrease
[2] in response to a price increase is more elastic than the elasticity of demand in response to a price decrease
[3] is constant regardless of price increases or decreases
[4] is perfectly elastic if price increases and perfectly inelastic if price decreases

25 Within a general equilibrium setting, which of the following statements is NOT necessarily true?

[1] At the point where indifference curves intersect, the marginal rates of substitution for the two consumers are equal
[2] Consumers' indifference curves will be tangential along the entire length of the contract curve
[3] Pareto optimal points will mean that *all* mutually beneficial gains from trade have been exhausted
[4] Intersecting indifference curves will indicate a Pareto inefficient allocation

26 When a buyer's willingness to pay for a good is less than the price of the good

[1] the buyer's consumer surplus for that good is maximised
[2] the buyer will buy as much of the good as the buyer's budget allows
[3] the buyer's consumer surplus is negative
[4] the buyer is indifferent about buying the good or not buying it

27 The condition that requires MRTS for each input pair to equal marginal costs is known as efficiency, and the condition that requires MRS for each output pair to equal their output price ratio is known as efficiency

[1] economic, market
[2] micro-, macro-
[3] cost, revenue
[4] technical, output
[5] consumption, production

28 An efficient allocation of productive inputs requires that

[1] each output has the same rate of technical substitution among inputs used
[2] each output has the same marginal rate of substitution for consumers
[3] each pair of outputs has the same rate of product transformation
[4] each individual has the same marginal rate of substitution between outputs

29 In the general equilibrium model, the slope of the production possibility frontier shows

[1] the marginal rate of substitution between the two goods
[2] the relative marginal costs of the two goods
[3] the efficient combination of outputs possible using fixed amounts of input
[4] the relative marginal productivities of the two goods

30 In an Edgeworth box, all points of efficiency occur at

[1] the intersections of the indifference curves
[2] the points of tangency between the sets of indifference curves
[3] the midpoint of the diagram
[4] *any point other than the intersections of the indifference curves*
[5] None of the above

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

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EXAMINATION MARK READING SHEET EKSAMEN-MERKLEESBLAD

PART 1 (GENERAL/ALGEMEEN) DEEL 1

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

1

PAPER NUMBER
VRAESTELNOMMER

2

INITIALS AND SURNAME
VOORLETTERS EN VAN

3

DATE OF EXAMINATION
DATUM VAN EKSAMEN

4

EXAMINATION CENTRE (E G PRETORIA)
EKSAMENSENTRUM (BV PRETORIA)

5

STUDENT NUMBER
STUDENTENOMMER

6

7

UNIQUE PAPER NO
UNIEKE VRAESTEL NR

8

9

For use by examination invigilator

Vir gebruik deur eksamenopsiener

IMPORTANT

1 USE ONLY AN HB PENCIL TO COMPLETE THIS SHEET
2 MARK LIKE THIS
3 CHECK THAT YOUR INITIALS AND SURNAME HAS BEEN FILLED IN CORRECTLY
4 ENTER YOUR STUDENT NUMBER FROM LEFT TO RIGHT
5 CHECK THAT YOUR STUDENT NUMBER HAS BEEN FILLED IN CORRECTLY
6 CHECK THAT THE UNIQUE NUMBER HAS BEEN FILLED IN CORRECTLY
7 CHECK THAT ONLY ONE ANSWER PER QUESTION HAS BEEN MARKED
8 DO NOT FOLD

BELANGRIK

1 GEBRUIK SLEGS N HB POTLOOD OM HIERDIE BLAD TE VOLTOOI
2 MERK AS VOLG
3 KONTROLEER DAT U VOORLETTERS EN VAN REG INGEVUL IS
4 VUL U STUDENTENOMMER VAN LINKS NA REGS IN
5 KONTROLEER DAT U DIE KORREKTE STUDENTENOMMER VERSTREK HET
6 KONTROLEER DAT DIE UNIEKE NOMMER REG INGEVUL IS
7 MAAK SEKER DAT NET EEN ALTERNATIEF PER VRAAG GEMERK IS
8 MOENIE VOU NIE

PART 2 (ANSWERS/ANTWOORDE) DEEL 2

10

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
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15	c1 c2 c3 c4 c5	50	c1 c2 c3 c4 c5	85	c1 c2 c3 c4 c5	120	c1 c2 c3 c4 c5
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24	c1 c2 c3 c4 c5	59	c1 c2 c3 c4 c5	94	c1 c2 c3 c4 c5	129	c1 c2 c3 c4 c5
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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
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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