# Year 2019 Examination



ISC

**Research Development and Consultancy Division** Council for the Indian School Certificate Examinations New Delhi

#### Year 2019

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## FOREWORD

This document of the Analysis of Pupils' Performance at the ISC Year 12 and ICSE Year 10 Examination is one of its kind. It has grown and evolved over the years to provide feedback to schools in terms of the strengths and weaknesses of the candidates in handling the examinations.

We commend the work of Mrs. Shilpi Gupta (Deputy Head) of the Research Development and Consultancy Division (RDCD) of the Council and her team, who have painstakingly prepared this analysis. We are grateful to the examiners who have contributed through their comments on the performance of the candidates under examination as well as for their suggestions to teachers and students for the effective transaction of the syllabus.

We hope the schools will find this document useful. We invite comments from schools on its utility and quality.

October 2019

Gerry Arathoon Chief Executive & Secretary

## PREFACE

The Council has been involved in the preparation of the ICSE and ISC Analysis of Pupil Performance documents since the year 1994. Over these years, these documents have facilitated the teaching-learning process by providing subject/ paper wise feedback to teachers regarding performance of students at the ICSE and ISC Examinations. With the aim of ensuring wider accessibility to all stakeholders, from the year 2014, the ICSE and the ISC documents have been made available on the Council's website <u>www.cisce.org</u>.

The documents include a detailed qualitative analysis of the performance of students in different subjects which comprises of examiners' comments on common errors made by candidates, topics found difficult or confusing, marking scheme for each question and suggestions for teachers/ candidates.

In addition to a detailed qualitative analysis, the Analysis of Pupil Performance documents for the Examination Year 2019 also have a component of a detailed quantitative analysis. For each subject dealt with in the document, both at the ICSE and the ISC levels, a detailed statistical analysis has been done, which has been presented in a simple user-friendly manner.

It is hoped that this document will not only enable teachers to understand how their students have performed with respect to other students who appeared for the ICSE/ISC Year 2019 Examinations, but also provide information on how they have performed within the Region or State, their performance as compared to other Regions or States, etc. It will also help develop a better understanding of the assessment/ evaluation process. This will help teachers in guiding their students more effectively and comprehensively so that students prepare for the ICSE/ISC Examinations, with a better understanding of what is required from them.

The Analysis of Pupil Performance document for ICSE for the Examination Year 2019 covers the following subjects: English (English Language, Literature in English), Hindi, History, Civics and Geography (History and Civics, Geography), Mathematics, Science (Physics, Chemistry, Biology), Commercial Studies, Economics, Computer Applications, Economic Applications, Commercial Applications.

Subjects covered in the ISC Analysis of Pupil Performance document for the Year 2019 include English (English Language and Literature in English), Hindi, Elective English, Physics (Theory), Chemistry (Theory), Biology (Theory), Mathematics, Computer Science, History, Political Science, Geography, Sociology, Psychology, Economics, Commerce, Accounts and Business Studies.

I would like to acknowledge the contribution of all the ICSE and the ISC examiners who have been an integral part of this exercise, whose valuable inputs have helped put this document together.

I would also like to thank the RDCD team of Dr. M.K. Gandhi, Dr. Manika Sharma, Mrs. Roshni George and Mrs. Mansi Guleria who have done a commendable job in preparing this document.

Shilpi Gupta Deputy Head - RDCD

October 2019

# CONTENTS

	Page No.
FOREWORD	i
PREFACE	ii
INTRODUCTION	1
QUANTITATIVE ANALYSIS	3
QUALITATIVE ANALYSIS	10

# INTRODUCTION

This document aims to provide a comprehensive picture of the performance of candidates in the subject. It comprises of two sections, which provide Quantitative and Qualitative analysis results in terms of performance of candidates in the subject for the ISC Year 2019 Examination. The details of the Quantitative and the Qualitative analysis are given below.

#### **Quantitative Analysis**

This section provides a detailed statistical analysis of the following:

- Overall Performance of candidates in the subject (Statistics at a Glance)
- State wise Performance of Candidates
- Gender wise comparison of Overall Performance
- Region wise comparison of Performance
- Comparison of Region wise performance on the basis of Gender
- Comparison of performance in different Mark Ranges and comparison on the basis of Gender for the top and bottom ranges
- Comparison of performance in different Grade categories and comparison on the basis of Gender for the top and bottom grades

The data has been presented in the form of means, frequencies and bar graphs.

#### Understanding the tables

Each of the comparison tables shows N (Number of candidates), Mean Marks obtained, Standard Errors and t-values with the level of significance. For t-test, mean values compared with their standard errors indicate whether an observed difference is likely to be a true difference or whether it has occurred by chance. The t-test has been applied using a confidence level of 95%, which means that if a difference is marked as 'statistically significant' (with \* mark, refer to t-value column of the table), the probability of the difference occurring by chance is less than 5%. In other words, we are 95% confident that the difference between the two values is true.

t-test has been used to observe significant differences in the performance of boys and girls, gender wise differences within regions (North, East, South and West), gender wise differences within marks ranges (Top and bottom ranges) and gender wise differences within grades awarded (Grade 1 and Grade 9) at the ISC Year 2019 Examination.

The analysed data has been depicted in a simple and user-friendly manner.

Given below is an example showing the comparison tables used in this section and the manner in which they should be interpreted.



shows The table comparison between the performances of boys and girls in a particular subject. The t-value of 11.91 is significant at 0.05 level (mentioned below the table) with a mean of girls as 66.1 and that of boys as 60.1. It means that there is significant difference between the performance of boys and girls in the subject. The probability of this difference occurring by chance is less than 5%. The mean value of girls is higher than that of boys. It can be interpreted that girls are performing significantly better than boys.

#### **Qualitative Analysis**

The purpose of the qualitative analysis is to provide insights into how candidates have performed in individual questions set in the question paper. This section is based on inputs provided by examiners from examination centres across the country. It comprises of question wise feedback on the performance of candidates in the form of *Comments of Examiners* on the common errors made by candidates along with *Suggestions for Teachers* to rectify/ reduce these errors. The *Marking Scheme* for each question has also been provided to help teachers understand the criteria used for marking. Topics in the question paper that were generally found to be difficult or confusing by candidates, have also been listed down, along with general suggestions for candidates on how to prepare for the examination/ perform better in the examination.



**PERFORMANCE (STATE-WISE & FOREIGN)** 



The States of Assam, Haryana and Maharashtra secured highest mean marks. Mean marks secured by candidates studying in schools abroad were 76.0.





#### **Comparison on the basis of Gender**

Gender	Ν	Mean	SE	t-value
Girls	18,360	63.9	0.16	21 51*
Boys	18,072	56.5	0.17	51.51*

\*Significant at 0.05 level

Girls performed significantly better than boys.







#### Mean Marks obtained by Boys and Girls-Region wise



Comparison on the basis of Gender within Region					
Region	Gender	Ν	Mean	SE	t-value
North (N)	Girls	7,718	61.5	0.24	22.01*
	Boys	7,342	53.7	0.26	22.01
Fort (F)	Girls	8,048	62.8	0.26	10.20*
East (E)	Boys	8,389	55.9	0.25	19.20
South (S)	Girls	1,208	74.0	0.55	7.80*
South (S)	Boys	1,047	67.2	0.68	
	Girls	1,308	74.2	0.56	9.17*
west (w)	Boys	1,224	66.5	0.63	
Earston (E)	Girls	78	81.6	1.80	4 12*
Foreign (F)	Boys	70	69.8	2.21	4.13**

\*Significant at 0.05 level

The performance of girls was significantly better than that of boys in all the regions.

**REGION (N, E, S, W, F)** 







Marks Range Gender	Ν	Mean	SE		
Chile			SL	t-value	
Ton Dongo (91 100) Girls	5,337	90.3	0.08	2.00*	
Boys	3,531	90.0	0.09		
Bottom Dongo (0.20) Girls	220	18.4	0.19	1 40	
Bottom Kange (0-20) Boys	528	18.1	0.13	1.48	
Significant at 0.05 level					





Boys Girls All Candidates

# GRADES AWARDED : COMPARISON GENDER-WISE

Comparison on the basis of gender in Grade 1 and Grade 9					
Grades	Gender	Ν	Mean	SE	t-value
Crada 1	Girls	2,892	94.8	0.06	1.06
Graue I	Boys	1,850	94.7	0.07	1.00
Crada 0	Girls	1,794	25.4	0.10	5 10*
Graue 9	Boys	3,177	24.8	0.08	5.12*
*Significant at 0.05 level					





# **QUALITATIVE ANALYSIS**

# PART I (20 Marks)

Answer all questions.

# **Question 1**

Answer briefly *each* of the following questions (i) to (x):

[10×2]

- (i) What is meant by *product differentiation* in monopolistic competition?
- (ii) Explain an *indifference map*, with the help of a diagram.
- (iii) Give *two* examples of each of the following:
  - (a) Revenue receipts of the government.
  - (b) Revenue expenditure of the government.
- (iv) With the help of a diagram, state the behaviour of MP when:
  - (a) TP of the variable factor reaches maximum.
  - (b) TP of the variable factor falls.
- (v) What is meant by *High Powered Money*?
- (vi) Distinguish between *depreciation* and *devaluation*.
- (vii) Explain *any two* precautions to be taken while calculating national income by income method.
- (viii) Differentiate between accounting cost and opportunity cost.
- (ix) With the help of diagrams, show when the elasticity of supply is:
  - (a) greater than one.
  - (b) equal to one.
- (x) What is meant by *investment multiplier*?

#### **Comments of Examiner**

- (i) Some candidates got confused between product differentiation in monopolistic competition and price discrimination in monopoly. Candidates wrote that products are differentiated but did not mention the ways in which they are differentiated. They were confused between the terms 'close substitute', 'homogenous' and 'heterogeneous' product. The term *close substitute* was not mentioned by a few candidates.
- (ii) Majority of the candidates did not draw the indifference map to explain it. Several candidates defined indifference curve instead of indifference map. In many answer scripts, the labelling of the indifference map was incorrect.
- (iii)Majority of the candidates were confused between revenue receipt and capital receipt and between revenue expenditure and capital expenditure. Many candidates mentioned receipt from imports but did not mention that the imports were from which items.
- (iv)Majority of the candidates made an improper diagram. Most of the candidates did not mention the variable factor along the x-axis. Some candidates were confused between TP and TU.
- (v) Common errors made by the candidates were:
  - Not mentioning the term monetary base.
  - Not mentioning the correct components of highpowered money.
  - Not mentioning all four components of highpowered money.
- (vi) Majority of the candidates did not mention the fall in the value of domestic currency in terms of foreign currency. Many candidates did not relate devaluation with the action undertaken by Central bank and that it was under fixed exchange rate. Candidates were unaware that depreciation was due to the free market mechanism and not related with the flexible exchange rate. Some candidates mixed it up with the depreciation of the assets.
- (vii) Majority of the candidates wrote the points for calculating national income without mentioning whether they should be included or excluded. Many candidates also included the precautions of other methods like output method and expenditure method which were not asked for.

#### Suggestion for teachers

- Teach the students the concept of close substitute with the help of real-life examples.
- Explain the difference between product differentiation and price discrimination to make the concept of close substitute clear.
- Tell the students to draw one curve for an indifference curve and at least three indifference curves while defining an indifference map.
- Teach the concept of capital and revenue receipt and expenditure in a tabular form and by giving examples of how these two components are related with *asset creation/reduction* and *liability creation/reduction*.
- Explain the meaning and relation between TP and MP.
- Teach the concept and components of high-powered money.
- Teach the meaning of Devaluation with reference to rise and fall in the value of domestic currency.
- Explain that Devaluation is undertaken by the monetary authorities and it is under the fixed exchange rate system.
- Depreciation should be explained with reference to market forces of demand and supply and that it is under the flexible exchange rate system.
- Explain the precautions of each method of measuring National Income separately, laying stress on the fact that precautions are not common to all the methods.
- While explaining opportunity cost to the students, explain the meaning of next best alternative with the help of examples.
- Teach the meaning and significance of the word 'multiplier' with examples.

- (viii) Most of the candidates neither used the term *next best alternative* nor did they explain opportunity cost in the correct manner. While explaining accounting cost, several candidates did not write that it was the cost of hiring various factors of production.
- (ix) Some candidates, instead of drawing the elasticity of supply curve as linear, drew a non-linear curve. A few candidates drew diagrams to measure elasticity of demand instead of drawing the diagram to measure elasticity of supply.
- Explain clearly to the students the difference between linear and non-linear supply curves and give adequate practice to the students to draw these curves.
- Emphasize to the students that the definition of investment multiplier should be accompanied with its formula.

(x) Many candidates were unable to explain the investment multiplier effect according to which income increases in investment. Several candidates instead of mentioning the *multiple amount*, wrote the formula for investment multiplier in words.

#### MARKING SCHEME

#### **Question 1**

(i) Product differentiation in monopolistic market:

Firms under monopolistic competition sell products which are differentiated yet close substitutes of each other. The differentiation could either be artificial or real. It can be done artificially through attractive packaging or advertisement or really by changing the quality or providing after sales service.

The main objective of the producer is to create a unique image about their products in the minds of the consumers and thereby increase the market share of their products.

(ii) Diagram of an indifference map:



Indifference map is a group of indifference curves each one of which represents a given level of satisfaction.

(iii)

Revenue receipts	Revenue expenditure
Income tax	Defence
Excise duties	Interest payments

(iv)		
		TP and MP O Units of labour MP
	(a)	MP = 0 when TP is maximum.
	(b)	MP becomes negative when TP is falling.
(v)	High Po High po Currence Cash res Require Other do It is also	owered Money: owered money refers to the total liability of the RBI. It consists of: ey held by the public. serve with the commercial banks. d reserve of the commercial banks with RBI. eposits with RBI. o known as the monetary base or the reserve money of the country.
(V1)	Different Depreci currenci exchang Devalua action u Bank.	iation refers to fall in the free market value of the domestic currency relative to the ies of the other countries in the market of foreign exchange. It is used under flexible ge system. ation refers to decrease in value of domestic currency vis-a-vis other currencies as an undertaken by Central Bank; it is used when exchange rates are fixed by the Central
(vii)	Precauti	ions to be taken while calculating national income by income method:
	Value o Imputed Transfer Windfal Interest	f production for self-consumption should be included. I rent to be included. r payments not to be included. Il gains not to be included. on loans/ public debt not to be included.



$$K = \frac{1}{1 - MPC}$$
 OR  $\frac{1}{MPS}$ 

(meaning and formula)

# PART II (60 Marks)

Answer any five questions.

#### **Question 2**

(a)	How	does an increase in income affect the demand for the following:	[3]
	(i)	A normal good	
	(ii)	An inferior good	
(b)	Discu	uss any three reasons for the leftward shift of a supply curve.	[3]

(c) Explain how a consumer attains equilibrium using *indifference curve analysis*. [6]

#### **Comments of Examiners**

 $K = \frac{\Delta y}{\Delta I}$ 

- (a) (i) Several candidates did not write the mechanism although they mentioned the effect of change in income on the demand. Some candidates related it with price instead of with income.
  - (ii) Some candidates related inferior goods with price and not with income. A few candidates related the answer with real income effect which was incorrect.
- (b) Several candidates considered price change as one of the reasons of the leftward shift of supply curve. They got confused with the determinants of demand. A few candidates wrote the factors affecting supply instead of the factors responsible for leftward shift of the supply curve.
- (c) Many candidates did not write the meaning of equilibrium. The budget line in the graph drawn by several candidates did not touch the axes. Also, in many answer scripts, the tangent did not touch the indifference curve. Some candidates drew only one or two ICs whereas all three were to be drawn. Some candidates seemed to be confused with the law of equi-marginal utility approach. The conditions of equilibrium were not written by a few candidates.

#### Suggestions for teachers

- Explain to the students that in case of normal goods, the demand increases with increase in income while in case of inferior goods, with the rise in purchasing power the consumer moves to a better substitute, and the demand for the given commodity falls.
- Explain the factors which are responsible for decrease in supply after explaining the meaning of leftward shift of the supply curve.
- Explain why demand factors cannot lead to leftward shift of supply curve.
- Tell students that they should write the meaning of consumer's equilibrium, the conditions of equilibrium, the graph must include the indifference map and various points should be considered to justify the point of equilibrium.
- Tell students to justify their answers.

	MARKING SCHEM	<b>IE</b>
Que	estion 2	
(a)	(i) Normal goods are those goods, the demand income of the consumer, e.g. T.V. (direct relat	for which increases with increase in ionship)
	(ii) Inferior goods are those goods the demand of the consumer. Eg. Maize (inverse relationship)	which falls with increase in income of
(b)	<ul> <li>Reasons for the leftward shift of supply curve:</li> <li>Expected rise in price of the goods in future</li> <li>The number of sellers decreases</li> <li>Rise in input prices</li> <li>Use of less efficient techniques of production</li> <li>Rise in price of other goods</li> <li>Raising taxes on production</li> <li>Lowering subsidies, etc.</li> </ul>	(any three)
(c)	A consumer attains equilibrium when he maximizes hi prices of the two commodities. In terms of indifference when he can reach the highest possible indifference cu <u>Equilibrium conditions</u> • Necessary condition: Slope of IC = Slope of the budget line $\therefore$ MRS <sub>xy</sub> = $\frac{P_x}{P_y}$ • Sufficient condition: The IC is convex to the origin at the point of equ	s total utility with his given income and be curve analysis, he attains equilibrium arve with his given budget constraint.
	Y A A A Commodity X	$ \xrightarrow{C_0} IC_2 $ $ \xrightarrow{C_0} X $

#### 

#### Explanation:

The consumer attains equilibrium at point E where, Slope of IC = Slope of the budget line

The point of tangency of the highest possible IC ie  $IC_1$  and the budget line AB gives the consumer the highest possible satisfaction.

If the consumer purchases any combination like F or G on  $IC_0$ , he will get lesser satisfaction compared to point E.

The consumer cannot purchase any combination like H on IC<sub>2</sub>, because it is out of reach of the consumer.

: The consumer attains equilibrium at point E.

# **Question 3**

(a) Discuss <i>two</i> differences between <i>returns to scale</i> and <i>returns to a variable factor</i> .	[3]
--	-----

- (b) With the help of a diagram, explain the relationship between AR and MR of a firm [3] under *imperfect competition*.
- (c) Discuss *any four* features of monopoly market.

#### **Comments of Examiners**

- (a) Majority of the candidates were unable to write the differences between *returns to scale* and *returns to a variable factor*. Several candidates did not write about the production function of these two time periods. Most of the candidates wrote only *long run* and *short run* as a difference and did not mention the other relevant differences.
- (b) Most of the candidates wrote the different types of relations between AR and MR except the required one. Several candidates wrote AP and MP in place of AR and MR. Many candidates did not show the MR curve going down the axis.
- (c) Many candidates wrote the sub-headings in the form of sentences but did not discuss the implications of the points. Some candidates wrote only the captions.

#### Suggestions for teachers

[6]

- Teach all relevant differences between returns to scale and returns to a variable factor, laying stress about the time period and their production function.
- Explain with the help of a diagram the relationship between AR and MR of a firm.
- Emphasize to the students that when attempting a question on the features of monopoly, it is imperative not only to explain the features but also the implication of each feature.

#### MARKING SCHEME

#### Question 3

Differences between returns to scale and returns to a variable factor. (a) **Returns to Scale** Returns to Variable Factor 1 Quantity of all factor inputs is changed. 1 Quantity of only one factor is changed. 2 Operates in the long run. 2 Operates in the short run. 3 3 Factor proportion remains the same. Factor proportion changes. 4 Change in scale of production. 4 No change in the scale of production. (b) The relationship between AR and MR of a firm under imperfect competition: A firm under imperfect competition (Monopoly, Monopolistic) is required to reduce the price if it wants to sell more units of its product. 1. Marginal revenue is always less than the average revenue or price. 2. The rate of fall of MR will be twice as much as the rate of fall of AR curve. у Η Price 0 ÅR Quantity > X 0 Μ MR (c) Features of monopoly market: One seller and large number of buyers. The product does not have any close substitute. There is restriction on entry of new firms. Being a single seller, the monopolist has full control on price. The monopolist may earn super-normal profit in long run. There is possibility of price discrimination in the monopoly market. It faces the downward slopping demand curve. 

(any four with explanation)

## **Question 4**

- (a) Explain the various degrees of price elasticity of demand at different points on a [3] straight line demand curve.
- (b) Show with the help of a diagram, how a perfectly competitive firm earns normal [3] profit in short run equilibrium.
- (c) Explain with the help of diagrams how equilibrium price changes when there is *simultaneous* increase of both, demand and supply. [6]

#### **Comments of Examiners**

- (a) Many candidates explained the degrees of price elasticity of demand through five different diagrams but did not show the degrees of price elasticity of demand on a straight-line demand curve. Several candidates did not write the formula. Some candidates did not join the linear demand curve with the axis and the values of elasticity at x-axis and y-axis were also incorrect. A few candidates, instead of explaining the geometric method, explained the percentage method.
- (b) Many candidates did not discuss the derivation of normal profit. Several candidates did not mention the equilibrium conditions. Some candidates drew an incorrect diagram, being confused between AC and MC curves.
- (c) Some candidates drew a single diagram instead of drawing three different diagrams with three different cases. Candidates were confused with the leftward/rightward shift of demand and supply curve. A few candidates wrote that price would change without mentioning whether it would increase or decrease. They showed changes by either keeping the demand constant or supply constant, which was incorrect.

#### **Suggestions for teachers**

- Explain Elasticity of Demand with the help of the formula.
- Teach students to draw the straightline demand curve and then to take points at equi-distance on the linear demand curve.
- Teach students to calculate elasticity of demand at different points by applying the formula.
- Demonstrate while explaining to the students how to draw the diagram stepwise, in order to show how a perfectly competitive firm earns normal profit in short run equilibrium.
- Emphasize that the diagram and its explanation are not two separate parts of the answer.
- Explain the definition of normal profit.
- Teach the three conditions when there is simultaneous increase of both demand and supply i.e. when price rises, when price remains same and when price falls.
- Emphasize that proper shift of demand and supply curve should be shown with the help of arrows.
- Stress that the effect of changes in price and quantity should be written.





(c) Simultaneous increase of demand and supply:

3 cases.

Case 1 – demand and supply increase in the same proportion. When demand and supply increase by equal magnitude equilibrium price remain unchanged but equilibrium quantity increases.



Case 2 – when the relative increase in demand is more than the increase in supply. When increase in demand is more than increase in supply, price will rise along with increase in equilibrium quantity.



Case 3 – when relative increase in demand is less than increase in supply. When increase in supply is more than increase in demand, price tends to fall but the equilibrium the equilibrium quantity will increase



## **Question 5**

(a) Discuss *any two* exceptions to the law of demand.

(b) Study the cost function of a firm given below:

Output (Units)	0	1	2	3
TC (₹)	30	90	110	120

Calculate:

(i) AFC

(ii) AC

(iii) MC

(c) A producer is in equilibrium when MR = MC. Explain this statement with the help [6] of a diagram.

#### **Comments of Examiners**

- (a) Many candidates explained Giffen good as an exception to law of demand relating it to the income instead of relating the demand for the said good with the price. As regards the other exception was concerned, candidates were unable to explain the direct relation between price and demand for that good.
- (b) Majority of the candidates answered this question correctly. However, some candidates did not answer all the three values, missing out either AFC or AC. A few candidates were unclear of the calculations at zero level of output.
- (c) Many candidates did not explain why equilibrium could not be at two points although MR=MC at both the points. Several candidates were unable to explain when MC>MR or MC<MR. Some candidates did not write the conditions of equilibrium. A few candidates did not mention the reason of a firm being in stable condition or at equilibrium.

#### Suggestions for teachers

- Clearly explain to the students the concept of Giffen good and Inferior good.
- Give adequate practice on questions based on cost function with proper formulas.
- Explain to the students that TC at zero level of output is TFC.
- Tell the students to write the two conditions of equilibrium correctly.
- Explain that the MC curve should cut price line at two points.
- Explain about the output where a producer should stop production.
- Ensure that the students understand the economic implications of MR and MC and why second MR=MC point is the point of equilibrium.

[3] [3]

#### **MARKING SCHEME**

#### **Question 5**

Giffen good (a) 1. Articles of snob appeal 2. 3. Expectations regarding future prices 4. Emergencies 5. Quality price relationship (any two with explanation) (b) TC TFC AFC AC MC Output 30 0 30 \_ \_ \_ 90 30 90 60 1 30 2 110 30 15 55 20 3 120 30 10 40 10 Only MR = MC does not ensure maximum profit. (c) A firm earns maximum profit at the equilibrium level of output and has no tendency to change its output. Equilibrium conditions Necessary condition: MR = MCSecond condition: The MC curve must intersect the MR curve from below and MC must be increasing at that level of output. Y Cost, Revenue MC P = AR = MR0 Х  $Q_0$  $Q_1$ Output Explanation The figure shows MR = MC at two points F and E. Point F satisfies only the necessary condition, not the sufficient condition.  $\therefore$  The firm cannot be in equilibrium at point F or output OQ<sub>0</sub> where MR = MC.

The firm will increase its output till  $OQ_1$ . Between  $OQ_0$  and  $OQ_1$  level of output, the firm can earn profit as MR > MC.

Point E at  $OQ_1$  level of output satisfies both the conditions.

 $\therefore$  Point E is the equilibrium point which ensures maximum profit.

# **Question 6**

- (a) Explain how public expenditure can be used as an instrument of fiscal policy to solve [3] the problem of:
  - (i) Income inequality
  - (ii) Inflation
- (b) Differentiate between the *revenue* and *capital components* of the *union budget*. [3]
- (c) Discuss briefly the various components of *balance of payment*.

#### **Comments of Examiners**

(a) Most of the candidates did not write the mechanism of how public expenditure could be used as an instrument of fiscal policy to solve the problem of Income Inequality and Inflation but only wrote that public expenditure should be increased.

Several candidates, instead of specifying that *unproductive public expenditure* should be reduced, mentioned only about public expenditure being reduced. A few candidates explained by taking tax as an instrument, thereby, ignoring the question asked.

- (b) Several candidates got confused between the terms *revenue receipt or capital receipt* and *revenue expenditure or capital expenditure*. A few candidates did not give their relevant examples.
- (c) Several candidates incorrectly categorized the items under the debit side and credit side of balance of payment. Many candidates did not explain the capital account correctly despite having some knowledge about the components of the current account.

#### Suggestions for teachers

[6]

- Emphasize upon the process of working of different policies or measures to solve the problem of income inequality and inflation.
- Explain the role of public expenditure to solve the various problems faced by the economy.
- Ensure that the students understand the difference between productive and unproductive public expenditure and their impact on the economy.
- By means of a flow chart, explain the difference between the revenue and capital components of the union budget along with the examples of every component.
- Explain the components of balance of payments i.e. the current account and capital account components.
- Teach the basis of categorizing the items under debit and credit side of balance of payment laying emphasis on assets and liabilities.

	MARKING SO	CHEME			
Que	estion 6				
(a)	<ul> <li>(i) Income Inequality:</li> <li>The government can spend more to benefit the poor, like education, public health, etc.</li> <li>Food at subsidized rates</li> <li>Unemployment relief.</li> <li>(ii) Stability when there is inflation: Government should reduce unproductive expenditure like defence, subsidies, etc.</li> </ul>				
(b)	Differences between revenue component and ca	pital components of the Union Budget:			
	Revenue component	Capital component			
	This shows the revenue receipts of the government and the expenditures met from these revenue receipts	This comprises of capital receipts and capital expenditures of the government			
	Revenue receipts are non- redeemable – they involve no sale or reduction of government assets	These create liabilities and reduce the assets of the government			
	Revenue expenditure neither create liabilities nor create assets of the government like expenditure on law and order, interest payment, defence etc.	Capital expenditure lead to creation of assets and liabilities of the government. Eg, granting loans and advances to the state government, land, building machinery etc			
(c)	<ul> <li>Components of Balance of Payment:</li> <li>BOP is divided into current and capital account. Current accounts have items which do not affect the assets and liabilities.</li> <li>Components of current account: <ul> <li>Exports and Imports of visible goods</li> <li>Exports and imports of invisible goods or services</li> <li>Unilateral receipts and payments.</li> <li>Balance of Trade = value of exports – value of imports, commodities like tea, coffee, jute are visible items.</li> <li>Balance of invisible items = value of invisible exports – value of invisible imports</li> <li>Balance of unilateral transfers = unilateral receipts from rest of world – unilateral payments to rest of the world. Examples are gifts, donations.</li> </ul> </li> <li>Capital Account of BOP:</li> <li>Balance of capital account = capital receipts and capital payments.</li> </ul>				

# **Question 7**

(a)	Discuss any two limitations of credit creation by commercial banks.	[3]
(b)	Explain two secondary functions of money.	[3]
(c)	Discuss <i>any two</i> qualitative methods and <i>any two</i> quantitative methods of credit control used by the Central Bank.	[6]

#### **Comments of Examiners**

- (a) Several candidates, instead of writing the limitations of credit creation, wrote the limitations of credit control. Many candidates were also confused between the total amount of cash reserve and cash reserve ratio.
- (b) Some candidates were unaware of the meaning of *deferred payment*. Some candidates did not explain about money being a liquid asset and the most durable asset for store of value. A few candidates explained the primary functions of money instead of its secondary functions.
- (c) Many candidates wrote instruments of quantitative credit control under qualitative credit control measures and vice versa. Some candidates wrote the meaning of the instrument but did not explain how it helped in controlling the credit.

#### Suggestions for teachers

- In order to help students to understand the relevance of each and every item of the limitations of credit creation, discuss the assumptions of the credit creation process before starting the topic itself.
- Teach separately, all the types of functions of money i.e. primary, secondary and contingent functions along with their various components.
- Explain the terms deferred, durable and liquid assets.
- Emphasize on the mechanism of each instrument of credit control.
- Teach both methods of credit control with their subheadings.

#### MARKING SCHEME

Que	stion 7		
(a)	Limitations to the Credit Creation Process:		
	Total amount of cash reserves		
	Ratio of cash reserves to deposits		
	Banking habits of people		
	• Nature of the securities offered		
	Business conditions		
	• Monetary policy of the central bank, etc. (any two to be explained)		
(b)	Secondary functions of Money		
	Standard of deferred payment:		
	It means payments that can be made in future in terms of money with interest. Credit is		
	given in terms of money.		

	Transfer of value: It means transferring a given value from one person to another. If a person purchases any commodity, then the value of the commodity can easily be transferred from the buyer to the seller through money.		
	Store of value:		
		People can keep their wealth in the form of money, since it is the most li asset. Savings can be used for purchasing goods and services any time.	quid form of
(c)	Qualitative methods used by the central bank to control credit:		
	1.	Regulation of consumer credit	
	2.	Regulation of margin requirement	
	3.	Credit rationing	
	4.	Direct action	
	5.	Moral suasion	
	6.	Publicity	(any two)
	Quan	titative methods used by the Central Bank for Credit Control:	
	1.	Bank rate policy	
	2.	Open market operations	
	3.	Cash reserve ratio and	
		Statutory liquidity ratio.	(any two)

# **Question 8**

(a)	What is meant by average propensity to consume?	Explain its relationship with	[3]
	average propensity to save.		

- (b) Discuss *any two* fiscal measures to correct a situation of *deficient demand* in an [3] economy.
- (c) Explain how equilibrium level of income can be determined with the help of saving [6] and investment approach.

#### **Comments of Examiners**

- (a) Several candidates defined APC but did not write its formula. Candidates wrote the relationship of APC with APS directly without deriving it.
- (b) Many candidates mentioned the correct fiscal measures to correct a situation of deficient demand in an economy but were unable to explain how these measures, especially measures such as taxation, public expenditure and public borrowing, generated aggregate demand.
- (c) Many candidates drew the diagrams for AD-AS approach and S-I approach in upper panels and lower panels but did not show the correspondence of the equilibrium points of these two diagrams. Some candidates explained the answer in terms of AD-AS approach but drew the diagram for S=I approach. A few candidates drew the Saving curve passing through the origin. The diagram was not properly labelled in a few answer scripts.

#### Suggestions for teachers

- Teach the derivation of the relationship between APC and APS with all the necessary steps.
- Explain all fiscal measures to control different economic conditions to the students.
- Tell students that use of disposable income is appropriate in case of taxation but not for public expenditure.
- With proper logic, explain the use of public borrowing to generate demand.
- Teach the Saving and Investment approach for equilibrium level by properly drawing the Saving curve which starts from below the x-axis, considering only autonomous investment.
- Explain this approach when S<I, S=I and S>I and its consequent effect on the income and employment. For better understanding by the students, this approach should be explained with the help of AD and AS approach.
- Explain to the students that a definition should be followed by its mathematical formula.

#### **MARKING SCHEME**

Question 8			
(a)	Average propensity to consume.		
	APC refers to the proportion of income desired	ed to be spent on consumption.	
	$\therefore \text{ APC} = \frac{C}{Y}$		
	Relationship between APC and APS.		
	$\mathbf{Y} = \mathbf{C} + \mathbf{S}$		
	Or, $\frac{Y}{Y} = \frac{C}{Y} + \frac{S}{Y}$	(Dividing both the sides by Y)	
	Or, 1 = APC + APS		
	$\therefore$ APC = 1 – APS	$\therefore APS = 1 - APC$	
	When APC increases, APS decrease	es $\therefore$ It shows negative correlation.	



# **Question 9**

- (a) Draw a well-labelled diagram to show a circular flow of income in a two sector model. [3] What happens to the flow of income when savings equals investment?
- (b) What is meant by *economic welfare*? Explain how GDP is an indicator of economic [3] welfare.
- (c) From the following data, calculate National Income by Output method and Income [6] method:

	Item	<u>₹ in crores</u>
(i)	Value of output	2500
(ii)	Value of intermediate consumption	1300
(iii)	Subsidies	40
(iv)	Rent	110
(v)	Employer's contribution to social security	30
(vi)	Profit	50
(vii)	Wages and salaries	340
(viii)	Interest	10
(ix)	Mixed income of self-employed	360
(x)	Indirect tax	180
(xi)	NFIA	(-)30
(xii)	Consumption of fixed capital	160

#### **Comments of Examiners**

- (a) Several candidates did not explain the savingleakages and investment-injection for circular flow of income. The answer to 'what happens to the flow of income when saving equals investment' was missing in many answer scripts. Many candidates did not show the directions of the flow which made the diagram meaningless. Some candidates did not show the difference between real flow and money flow.
- (b) Many candidates did not write the concept of economic welfare. Although, several candidates wrote that GDP was a good indicator, they did not mention that PCI was a better indicator.
- (c) Several candidates were unable to treat correctly the item NFIA in both output method and income method. Many candidates were confused with GDP, NDP and NNP at factor cost. Some candidates tried solving the problem in one line and hence could not get the correct answer.

#### Suggestions for teachers

- Clearly explain the meaning of leakages, injections, real flow and money flow while teaching the circular flow of income in the twosector model.
- Explain the stage of S=I and other relations.
- Explain the concept of welfare and economic welfare with the help of examples.
- Give adequate practice to the students in solving problems on National Income so that they become familiar with the terminology and treatment of the various items. Emphasize on the use of NFIA.
- Advise the students not to miss steps while solving the sums.
- Teach students to write the formula and then substitute the values in it.



(b)	<ul> <li>Economic Welfare refers to material well-being of people. It refers to the total satisfaction derived from the use of goods and services that can be purchased for money.</li> <li>GDP is an indicator of economic welfare but per capita income is better. This is because if the increase in GDP is accompanied with a rise in population the per capita availability of goods and services will fall. The per capita income becomes a better indicator. Also one must consider real GDP and not nominal. An increase in money national income may be partly due to increase in prices and partly due to increase quantity of goods and services. Real national income is a better indicator because it eliminates the impact of price changes on national income.</li> </ul>		
(C)			
	(1)	NV $\Delta r_{2} = value of output = -$	
		$\mathbf{N}\mathbf{v}\mathbf{A}_{\mathrm{FC}}$ – value of output	
		- Not indirect tax	
		Net mullect tax NVA = $-2500 - 1200 - 160 - (180, 40) = 7,000 \text{ or}$	
		NVAFC = 2500 - 1500 - 100 - (180-40) = 3000  cr.	
	$NNP_{FC} = 900 + (-30) = ₹ 8/0 Cr.$		
	(11)	Income Method:	
		$NDP_{FC} = COE + OS + MI$	
		COE = wages + salaries + employer's contribution to social security	
		COE = 340 + 30 = 370	
		OS = R + I + Profit	
		OS = 110 + 10 + 50 = 170	
		MI = 360	
		NDP <sub>FC</sub> = $370 + 170 + 360 = ₹ 900$ cr.	
		$NNP_{FC} = NDP_{FC} + NFIA$	
	900 + (-30) = ₹ 870 cr.		
	1		

# **GENERAL COMMENTS**

Topics found difficult by candidates

- Question 1(x): Investment multiplier.
- Question 5(c): Producer's equilibrium when MR=MC.
- Question 6(b): Revenue and capital components of the budget.
- Question 9(b): Meaning of economic welfare and relation of GDP with economic welfare.
- Question 9(c): National income determination.

Concepts in which candidates got confused

- Product differentiation and price discrimination.
- Limitations of credit creation and credit control.
- Credit control under qualitative and quantitative methods.
- AD AS approach and S=I approach in determination of income especially in the explanation of the diagram.

Suggestions for candidates

- Be clear about the objective and learning outcome of every chapter.
- Prepare the theory along with the diagrams.
- Be clear about the relevance of each curve in the diagram.
- Clarify any doubts from the teachers so that all concepts are clear.
- Practice questions on National Income regularly.
- Avoid selective study.
- Proper labelling of the diagrams is important.
- Each explanation must have its logic.
- Write the formula along with the numerical.
- Read the question paper in the allotted reading time and allocate time to each question.
- Do not write incomplete definitions.
- Use key words and phrases. For this, command over economic terms is a must.
- Answers should be to the point.