Analysis of Pupil Performance

Humanities & Commerce

ECONOMICS

Year 2018

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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.

Gerry Arathoon
October 2018   **Chief Executive & Secretary**

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 www.cisce.org.

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 answer and suggestions for teachers/ candidates.

In addition to a detailed qualitative analysis, the Analysis of Pupil Performance documents for the Examination Year 2018 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 2018 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 2018 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 2018 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
October 2018   *Deputy Head - RDCD*

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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 2018 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 2018 Examination.

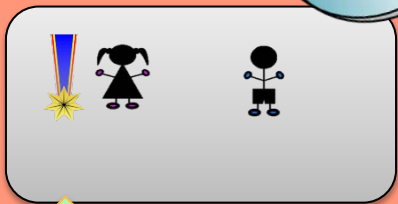The analysed data has been depicted in a simple and user-friendly manner.

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

Comparison on the basis of Gender

Gender	N	Mean	SE	t-value
Girls	2,538	66.1	0.29	
Boys	1,051	60.1	0.42	

*Significant at 0.05 level

11.91*

Girls performed significantly better than boys.

The table shows 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.
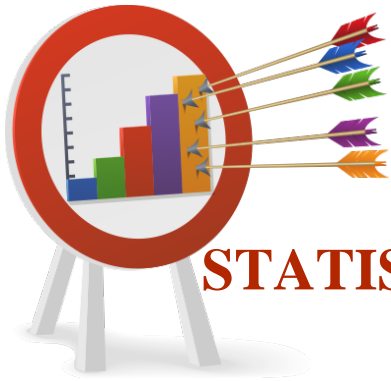
The results have also been depicted pictographically. In this case, the girls performed significantly better than the boys. This is depicted by the girl with a medal.
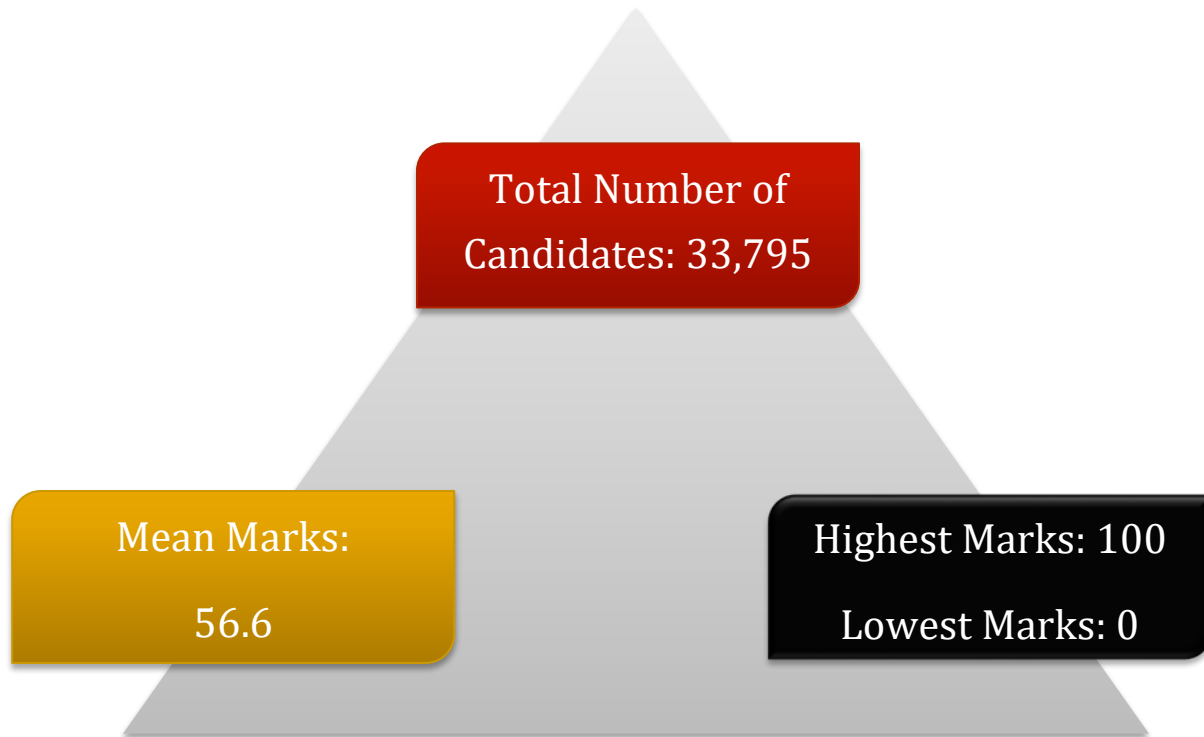
Qualitative Analysis

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.
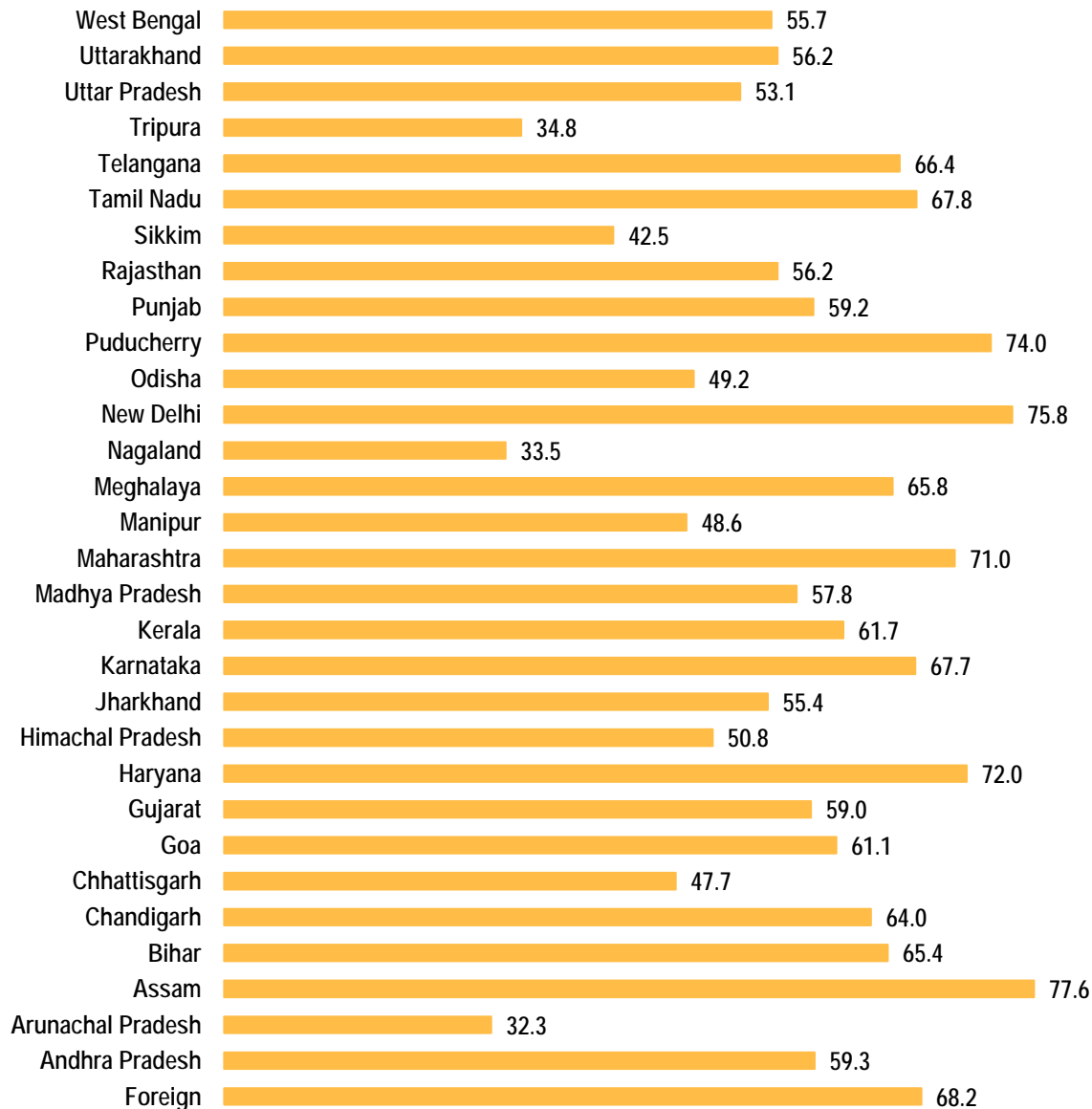
QUANTITATIVE ANALYSIS

STATISTICS AT A GLANCE

Total Number of Candidates: 33,795

Mean Marks:

56.6

Highest Marks: 100

Lowest Marks: 0

PERFORMANCE (STATE-WISE & FOREIGN)

State/UT	Mean Marks
West Bengal	55.7
Uttarakhand	56.2
Uttar Pradesh	53.1
Tripura	34.8
Telangana	66.4
Tamil Nadu	67.8
Sikkim	42.5
Rajasthan	56.2
Punjab	59.2
Puducherry	74.0
Odisha	49.2
New Delhi	75.8
Nagaland	33.5
Meghalaya	65.8
Manipur	48.6
Maharashtra	71.0
Madhya Pradesh	57.8
Kerala	61.7
Karnataka	67.7
Jharkhand	55.4
Himachal Pradesh	50.8
Haryana	72.0
Gujarat	59.0
Goa	61.1
Chhattisgarh	47.7
Chandigarh	64.0
Bihar	65.4
Assam	77.6
Arunachal Pradesh	32.3
Andhra Pradesh	59.3
Foreign	68.2

The States/UTs of Assam, New Delhi and Puducherry secured highest mean marks. Mean marks secured by candidates studying in schools abroad were 68.2.

GENDER-WISE COMPARISON

GIRLS

Mean Marks: 60.2

Number of
Candidates: 17,610

BOYS

Mean Marks: 52.7

Number of
Candidates: 16,185

Comparison on the basis of Gender

Gender	N	Mean	SE	t-value
Girls	17,610	60.2	0.17	31.51*
Boys	16,185	52.7	0.17	

*Significant at 0.05 level
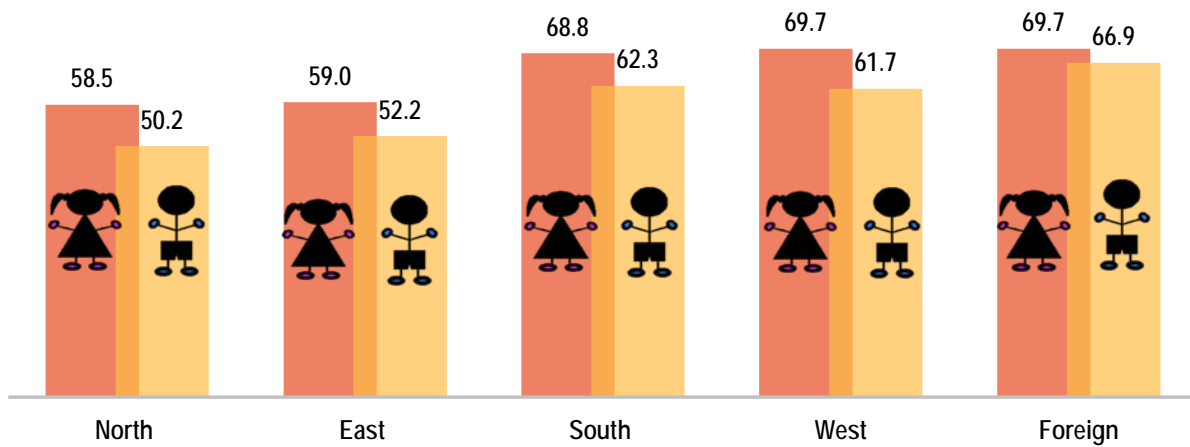
Girls performed significantly better than boys.

REGION-WISE COMPARISON

East

Mean Marks: 55.6

Number of Candidates: 15,386

Highest Marks: 100
Lowest Marks: 01

North

Mean Marks: 54.6

Number of Candidates: 13,864

Highest Marks: 100
Lowest Marks: 0

REGION

Mean Marks: 65.8

Number of Candidates: 2,095

Highest Marks: 100
Lowest Marks: 18

Mean Marks: 66.0

Number of Candidates: 2,317

Highest Marks: 100
Lowest Marks: 17

Mean Marks: 68.2

Number of Candidates: 133

Highest Marks: 100
Lowest Marks: 26

South

West

Foreign

Mean Marks obtained by Boys and Girls-Region wise

	North	East	South	West	Foreign
Girls	58.5	59.0	68.8	69.7	69.7
Boys	50.2	52.2	62.3	61.7	66.9

Comparison on the basis of Gender within Region

Region	Gender	N	Mean	SE	t-value
North (N)	Girls	7,366	58.5	0.25	23.27*
	Boys	6,498	50.2	0.26	
East (E)	Girls	7,824	59.0	0.25	18.88*
	Boys	7,562	52.2	0.26	
South (S)	Girls	1,119	68.8	0.59	7.37*
	Boys	976	62.3	0.65	
West (W)	Girls	1,241	69.7	0.58	9.14*
	Boys	1,076	61.7	0.66	
Foreign (F)	Girls	60	69.7	2.28	0.86
	Boys	73	66.9	2.27	

*Significant at 0.05 level

The performance of girls was significantly better than that of boys in all the regions except foreign region, wherein no significant difference was observed.

REGION (N, E, S, W)
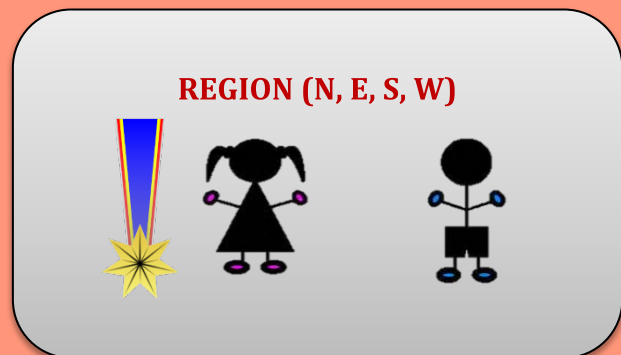
MARK RANGES : COMPARISON GENDER-WISE

Comparison on the basis of gender in top and bottom mark ranges

Marks Range	Gender	N	Mean	SE	t-value
Top Range (81-100)	Girls	4,004	89.7	0.09	3.30*
	Boys	2,281	89.2	0.12	
Bottom Range (0-20)	Girls	320	18.7	0.11	1.65
	Boys	602	18.4	0.10	

*Significant at 0.05 level

Marks Range (81-100)

Performance of girls was significantly better than the performance of boys.

Marks Range (81-100)

Marks Range (0-20)

No significant difference was found in the performance of girls and boys.

Boys | Girls | All Candidates

81 - 100
- 89.2
- 89.7
- 89.5

61 - 80
- 70.2
- 70.4
- 70.3

41 - 60
- 50.0
- 50.3
- 50.2

21 - 40
- 31.7
- 32.3
- 32.0

0 - 20
- 18.4
- 18.7
- 18.5
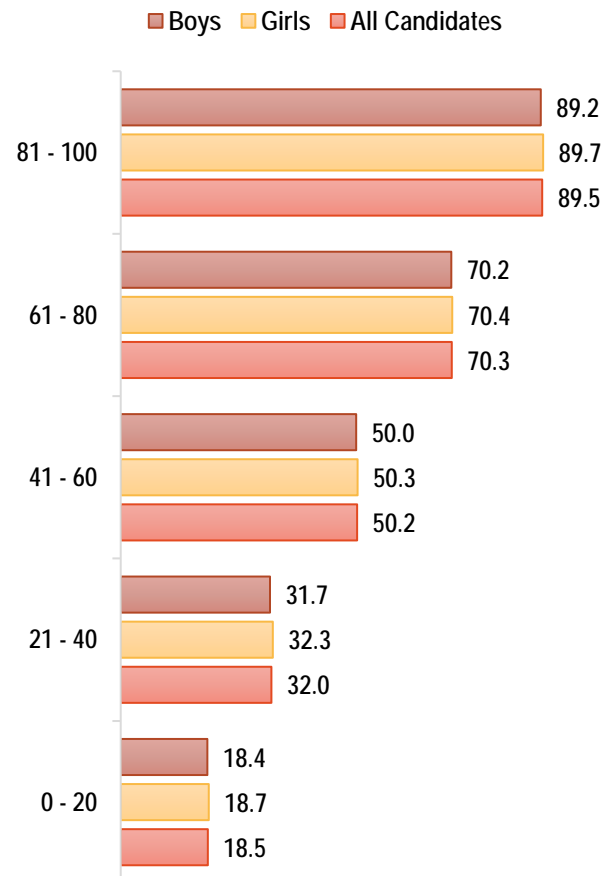
GRADES AWARDED : COMPARISON GENDER-WISE

Comparison on the basis of gender in Grade 1 and Grade 9

Grades	Gender	N	Mean	SE	t-value
Grade 1	Girls	1,998	94.5	0.07	1.19
	Boys	1,035	94.4	0.10	
Grade 9	Girls	1,860	23.7	0.08	3.77*
	Boys	2,934	23.3	0.06	

*Significant at 0.05 level

Grade 1

No significant difference was observed between the average performance of girls and boys.

Grade 9
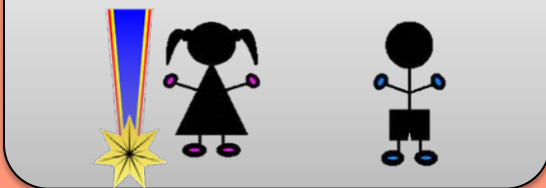
Grade 9

Performance of girls was significantly better than the performance of boys.

Boys Girls All Candidates

	Boys	Girls	All Candidates
1	94.4	94.5	94.5
2	84.4	84.4	84.4
3	74.4	74.4	74.4
4	64.4	64.4	64.4
5	57.0	56.9	57.0
6	51.9	52.1	52.0
7	47.0	47.0	47.0
8	38.8	39.0	38.9
9	23.3	23.7	23.5
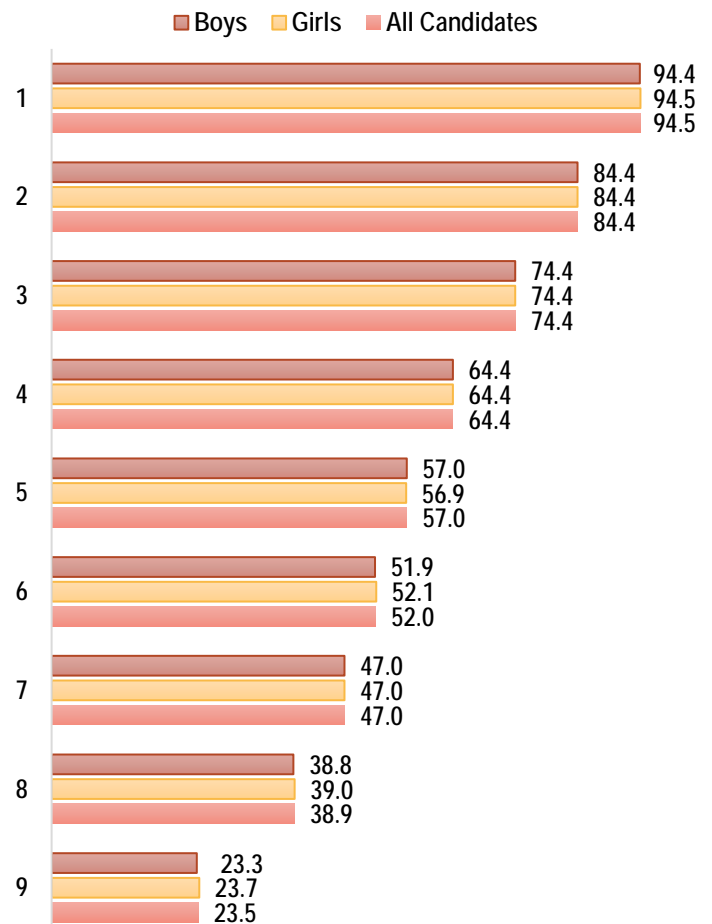
PART I (20 Marks)
Answer **all** *questions.*

Question 1

Answer briefly *each* of the following questions **(i)** to **(x)**: [10×2]

(i) Define *deficit financing*.

(ii) Differentiate between *Current Account* and *Capital Account of Balance of Payment*.

(iii) What is meant by *price discrimination* in monopoly market?

(iv) Define *total utility*. How is marginal utility derived from total utility?

(v) Explain the *overdraft* facility given by banks.

(vi) Define *implicit cost*. How is it different from *explicit cost?*

(vii) Why is *price* per unit equal to AR and MR under perfect competition?

(viii) Explain the meaning of the following:

    (a) Full employment

    (b) Involuntary unemployment.

(ix) Explain *two* differences between *factor income* and *transfer income*.

(x) With the help of diagrams, show how equilibrium price and quantity of a commodity are affected when:

    (a) Demand is perfectly elastic and supply decreases.

    (b) Supply is perfectly elastic and demand increases.

Comments of Examiners

(i) Many candidates did not define the term *deficit*. Several candidates did not mention *creation of new money* or *printing of new money* in the definition of deficit financing.

(ii) Several candidates were confused between the meanings of current account and capital account of Balance of Payment (BOP) and revenue and capital account of the budget. Many candidates were able to explain BOP of current account but were unable to explain BOP of capital account.

(iii) Several candidates defined monopoly market for explaining price discrimination which was irrelevant. Many candidates, instead of writing *same product and different prices*, wrote *different prices are charged for different products*.

(iv) Majority of the candidates defined total utility as *utility derived from all commodities*. Many candidates wrote TU=∑MU or simply defined *utility*.

(v) Many candidates did not mention that, in case of an overdraft, interest is charged by the banks on the amount overdrawn. Most of the candidates, instead of writing that overdraft implies the overdrawing from a current account, wrote that it means the withdrawal of the amount from the account.

(vi) Several candidates did not write that implicit cost is the estimated value of inputs owned or that is the imputed/estimated value of the factor owned by the producer and used in his own production process.

(vii) Several candidates did not write that price is uniform or constant and that the firm is not required to reduce price to sell more. Some candidates proved that AR=P which was not required.

(viii) (a) While explaining the meaning of full employment, several candidates did not mention the term *prevailing wage rate*. Some candidates wrote *any wage rate* or *wage rate*, both being incorrect.

(b) While explaining the meaning of involuntary unemployment, many candidates either did not mention the term *prevailing wage rate* or wrote that people failed to get the job at satisfactory wage rate.

(ix) While explaining the difference between factor income and transfer income, several candidates wrote that transfer income is income earned in transferring goods or money, which was incorrect.

(x)(a) Many candidates did not label properly, either the perfectly elastic demand curve (horizontal demand curve) or the leftward shift of supply curve. In several answer scripts, the change in quantity was also not indicated.

(b) Several candidates showed equilibrium price in their diagrams by showing simultaneous shift of the demand and supply curves.

MARKING SCHEME

Question 1

(i)	*Deficit financing* means meeting the deficit between government expenditure and revenue through creation of new money.
(ii)	• BOP of current account comprises visible, invisible and transfer items. **OR** • The current account records transactions relating to export and import of goods, services, unilateral transfers and international incomes. BOP of capital account comprises borrowing, lending and sales from or purchases of stocks and gold and foreign exchange. **OR** The capital account records all international economic transactions relating to change in assets both financial and physical. • BOP of current account – no change of asset or liability. BOP of capital account – change of asset or liability. *(Any one point of difference)*
(iii)	Price discrimination refers to a situation when a producer sells the same product to different buyers at two or more different prices for reasons not associated with difference in the cost of supplying the product to different consumers. E.g. hospitals charge lower operation fees from the poor patients and higher fees from the rich patients. *(Example is not required)*
(iv)	*Total utility* is the total amount of satisfaction a consumer gets by consuming. **OR** It refers to the total satisfaction derived by the consumer from the consumption of a specific quantity of a commodity. $MU_n = TU_n - TU_{n-1}$ as marginal utility is the satisfaction derived from the additional unit consumed.
(v)	When consumer gets an overdraft facility from a bank, this means that he is allowed to draw cheques in excess of the balance standing to his credit to the extent of the amount of overdraft. The bank charges interest only on the amount overdrawn.
(vi)	Implicit cost refers to the imputed or estimated value of inputs owned by the firm used in its own production unit. Explicit cost refers to the money payment made by the firm to owners of factor services required for production is known as explicit cost.

(vii)	AR = MR = P. In perfect competition price is uniform. Firm is not required to reduce the price to sell more units of output.	
(viii)	(a)	Full employment is the situation where all those persons who are willing to work at the prevailing wage rate are getting work and are employed.
	(b)	Involuntary unemployment refers to a situation when people are willing to work at the prevailing wage rate but are unable to find work.

(ix)				
		Factor income		Transfer income
	1	Received for rendering productive service	1	Received without rendering any service
	2	Comprises rent, wages, interest and profit	2	Comprises gifts, subsidies, donations, scholarships, etc.
	3	Earned income	3	Unearned income
	4	Included in national income	4	Not included in national income.

(Any two)

(x)	(a)	Decrease in supply when demand is perfectly elastic:

Quantity demanded and supplied (in units)

	(b)	Increase in demand when supply is perfectly elastic:

Quantity demanded and supplied (in units)

PART II (60 Marks)

*Answer **any five** questions.*

Question 2

(a) Differentiate between *contraction of demand* and *decrease in demand*, using diagrams. **[3]**

(b) "The supply curve of labour is an exception to the law of supply." Justify the statement, using a diagram. **[3]**

(c) A consumer consumes goods X and Y. Given below is his marginal utility schedule for goods X and Y. Suppose, the price of X is ₹ 2, Y is ₹ 1 and income ₹ 12. State the law of Equimarginal utility and explain how the consumer will attain equilibrium. **[6]**

Units	1	2	3	4	5	6
MU$_X$	16	14	12	10	8	6
MU$_Y$	11	10	9	8	7	6

Comments of Examiners

(a) Several candidates, instead of writing that contraction of demand means fall in demand / decrease in demand due to rise in price, wrote that fall in demand / decrease in demand is due to *change in price*. Many candidates either drew the supply curve or showed the extension in demand.

(b) Majority of the candidates did not state the reasons for fall in supply of labour due to rise in the wage rate. Several candidates were unable to draw the correct labour supply curve as an exception to the law of supply.

(c) Many candidates did not write the statement of the Law of equi-marginal utility. A number of candidates did not state the equilibrium conditions for the two commodities. Many candidates were unable to write the correct combinations to show the consumer's equilibrium.

Suggestions for teachers

- Explain clearly the concepts of contraction of demand and decrease in demand.
- Encourage students to practice drawing diagrams.
- Explain the concept to the students that workers may work for shorter hours if wages are higher so that they can enjoy leisure time.
- Ensure that students draw the diagrams only after having understood the concept.
- Teach students the law of equi-marginal utility showing MUx/Px=MUy/Py=MU per unit of money.
- Explain to the students the correct combinations where equilibrium conditions are fulfilled and the reasons why some conditions are not correct.
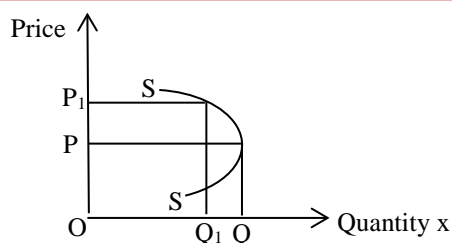
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MARKING SCHEME

Question 2

(a)

Contraction of demand	Decrease in demand
Other things being equal, with the rise in price, demand for a commodity falls, it is called contraction of demand.	A decrease in demand implies that at a given price a less quantity is purchased due to change in other factors, such as: • Decrease in consumer's income. • Decrease in population. • When price of the commodity is expected to fall in near future. • Rise in the price of complementary goods. • Fall in price of substitute goods • Unfavourable change in taste and preference. *(any one of the factors)*

Contraction in Demand

(b)

Supply of labour is expressed in terms of number of hours worked. Workers may be willing to work for shorter hours if wages (the price of labour) are higher so as to enjoy more leisure.

(c) Given below is an individual's Marginal Utility schedule for goods X and Y. Suppose, price of X is ₹ 2, Y is ₹ 1 and income ₹ 12.

Units	MUx	MUy	MUx/Px	MUy/Py
1	16	11	8	11
2	14	10	7	10
3	12	9	6	9
4	10	8	5	8
5	8	7	4	7
6	6	6	3	6

The consumer will be in equilibrium when MUx / Px = MUy/Py = MU per unit of money.

Combinations:

1 unit of X + 4 units of Y = ₹ 2 + ₹ 4 = ₹ 6

2 units of X + 5 units of Y = ₹ 4 + ₹ 5 = ₹ 9

3 units of X + 6 units of Y = ₹ 6 + ₹ 6 = ₹ 12

Since the budget is ₹ 12, the consumer will be in equilibrium when he buys 3 units of good X and 6 units of good Y.

Question 3

(a) Explain *any two* factors affecting the price elasticity of demand. **[3]**

(b) Derive a market supply curve from two hypothetical individual supply schedules. **[3]**

(c) *If more variable factors are employed to fixed factors, the total product increases* **[6]** *initially at increasing rate and finally it decreases.* Explain this law with the help of a diagram.

Comments of Examiners

(a) Several candidates, instead of mentioning the effect of the factors on price elasticity wrote about their effect on demand. Many candidates mentioned determinants of demand instead of determinants of price elasticity of demand.

(b) Several candidates took different prices in the supply schedule and two individual suppliers. Some candidates drew a demand schedule instead of a supply schedule. A few candidates wrote *units* instead of *price* in the schedule.

(c) Many candidates were unable to draw the proper shapes of TP, AP and MP curves. A large number of candidates were unable to explain the three stages of the law. Instead of stage wise behaviour of the curves, several candidates wrote about their relation, which was irrelevant.

MARKING SCHEME

Question 3

(a) Factors affecting the price elasticity of demand:

- <u>Nature of Commodity</u>: If you regard a product as a <u>necessity,</u> then your demand for it will be inelastic: you are willing to pay any reasonable price, e.g. gasoline. If you think it is a <u>luxury,</u> then your demand is very <u>elastic,</u> and it may drop considerably due to an increase in price, e.g. IPL ticket, car.

- <u>Availability of substitutes</u>: The <u>more possible substitutes</u>, the <u>greater the elasticity</u>. Example, Coke, Pepsi. If the price of coke goes up, people will be tempted to buy Pepsi. The demand of coke will, therefore, fall. In case of salt, it has no close substitute and is necessary. Its demand is inelastic.

- <u>Proportion of Total expenditure</u>: Products that consume a <u>small portion</u> of the consumer's income its demand is <u>inelastic</u>. Example, a consumer spends a very small proportion of income on purchase of match boxes. Therefore, even large change in its price will not induce him to change his level of demand.

- <u>Time Period</u>: Elasticity tends to <u>be greater over the long run</u> because consumers have more time to adjust their behaviour and vice-versa. It is low for a short period.

- <u>Number of uses</u>: The <u>greater number of uses</u> of a commodity, the <u>higher is the price elasticity of demand</u>. Example, milk can be used to make cheese, butter, curd, etc. If its price rises, it will be put to only important uses like serving the children or for the sick members in the family.

	• <u>Possibility of postponement</u>: If the demand for a particular commodity <u>cannot be postponed</u>, its demand will be <u>inelastic</u>, example, medicines, food, etc.
	• <u>Habits</u>: Those goods which have become habitual necessities for the consumers, have low price elasticity. Example, cigarettes, drugs, etc.
	• <u>Price level</u>: <u>Highly and low-priced goods</u> have low price elasticity or inelastic demand. Example diamonds and coarse cloths. Medium class commodities are more elastic. Example, watches, cycles, etc.
(b)	
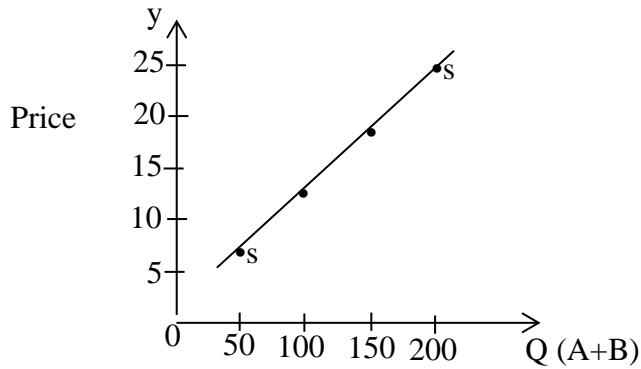
If there are only two suppliers in the market, the market supply schedule derive from the two individual supply schedules as follows:

Price of Good X ₹ per kg.	Qty supplied by firm A	Qty supplied by firm B	Market supply (kg per month)
10	50	10	60
15	75	20	95
20	100	30	130
25	125	40	165

(c)	
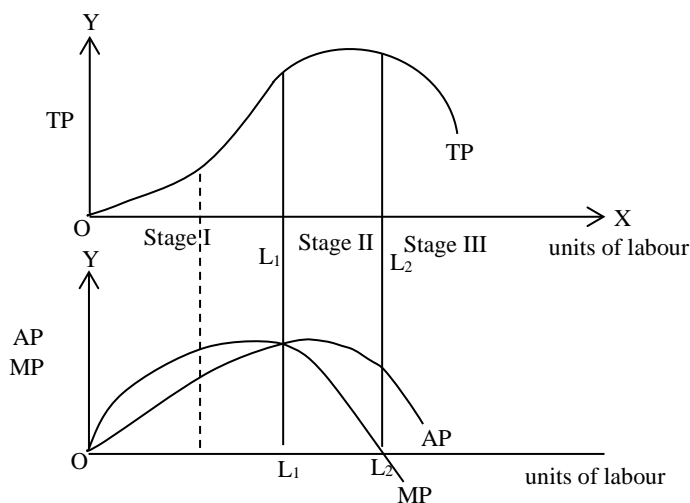
Stage 1: TP initially increases at increasing rate then at diminishing rate. MP increases, reaches maximum and then starts decreasing. AP increases throughout.

Stage 2: TP continues to increase at diminishing rate and reaches maximum. MP continues to decrease and becomes zero. AP from maximum begins to decrease.

Stage 3: TP diminishes. MP is negative. AP decreases but remains positive.

Question 4

(a) Explain the shapes of *total fixed cost curve* and *average fixed cost curve*. Give one reason each, to justify the shape of the two curves. **[3]**

(b) Explain the concept of *Maximum Price Legislation* with the help of a diagram. **[3]**

(c) Explain *any four* features of perfect competition. **[6]**

Comments of Examiners

(a) Several candidates were unable to write the proper reasons of a horizontal total fixed cost curve and asymptotic average fixed cost curve. Some candidates were unable to draw the correct shape of the AFC curve.

(b) Many candidates, in the diagram, showed the maximum legislated price above the equilibrium price, which was not correct as it indicated floor price. Some candidates showed two prices - one above the equilibrium and another below equilibrium but did not indicate which of the two was the maximum legislated price.

(c) Many candidates did not answer this part correctly. A few candidates only wrote the captions.
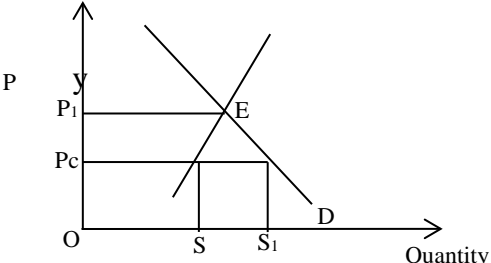
MARKING SCHEME

Question 4

(a) Fixed costs (FC) are independent of output and must be paid out even if the production stops. AFC = Total Fixed Costs (FC)/Output (Q).
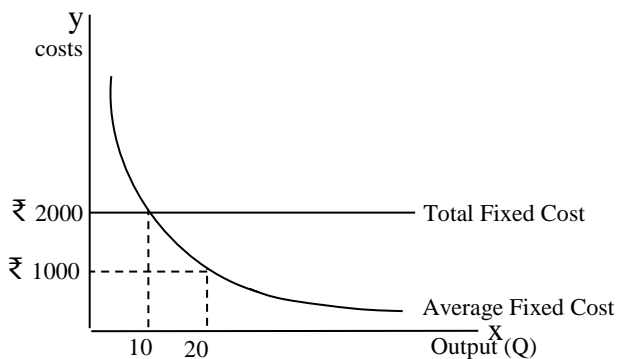
Total fixed cost is horizontal straight line running parallel to the X axis as it is fixed and <u>does not change with output</u>.

	Average fixed cost is a rectangular hyperbola, asymptotic curve. It is downward sloping and does not touch the X axis or the Y axis. AFC is TFC / Q hence, as output increases AFC decreases but does not become zero as TFC is never zero.
(b)	*Maximum Price Legislation*: It is the maximum legal price (Government price) which supplier can charge for a particular good or service. If price ceiling is set above equilibrium price it has no effect on price, there is excess supply which pulls down price. If the government fixes price below equilibrium price, it will result in excess demand. A shortage of commodity will develop.
(c)	Features of perfect competition: • Large number of buyers and sellers: There are a large number of buyers and sellers of the commodity under perfect competition, each too small to exert any influence on the price of the commodity by his actions. A firm is therefore a price taker rather than a price maker. • Homogenous product: The products are indistinguishable from one another. They are perfect substitutes for one another. Hence price is uniform throughout the market. • Freedom of entry and exit: New firms are free to enter the industry and existing firms are free to leave the industry. There are no restrictions. Hence, the firms end up earning only normal profits under perfect competition. • Perfect mobility of resources: This characteristic ensures that resources or factors of production can enter or quit a firm or the industry at will. Resources are able to switch over from one use to another without restriction.

Question 5

(a)   Explain how a firm in perfect competition incurs loss, in short run equilibrium.   **[3]**

(b)   Discuss how prices of related goods affect the demand for a commodity.   **[3]**

(c)   Explain how a producer attains equilibrium using the *TR* and *TC* approach.   **[6]**

Comments of Examiners

(a) Several candidates did not draw the AVC curve. Many candidates were unable to plot the correct equilibrium point and the area showing loss. A few candidates drew the price line below the AVC curve.

(b) Many candidates, instead of mentioning price of substitute goods and explaining its impact on demand for a good wrote on how the price of complementary goods impacted the demand for a substitute good. Some of those candidates who did mention price of substitute goods, did not mention whether the concerned commodity becomes relatively cheaper or dearer.

(c) While explaining how a producer attains equilibrium using TR and TC approach, several candidates incorrectly drew the TC curve starting from the origin. A point of profit maximization with reasons for the same was not given by many candidates. A few candidates drew the TP curve.

MARKING SCHEME

Question 5

(a)	Conditions – MR = MC
	MC Cuts MR from below
	Loss means AC > AR
	TR = OP × OQ = ☐ OPAQ
	TC = OB × OQ = ☐ OBMQ
	Loss = ☐ APBM
(b)	Prices of related goods:
	Substitute goods – if price of substitute goods falls: then, the demand for the good in question, will decrease as the consumers will demand more of the substitute goods.
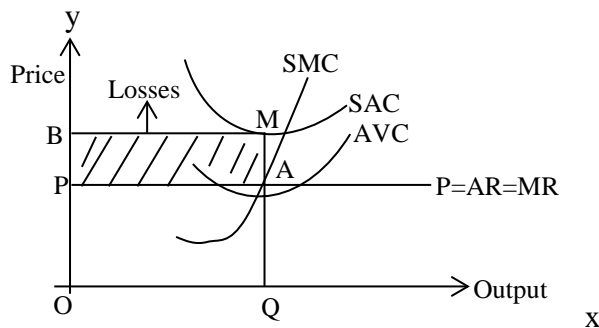
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	Complimentary goods – if the price of complimentary goods falls, then the demand for the good in question will rise as it will become cheaper.
(c)
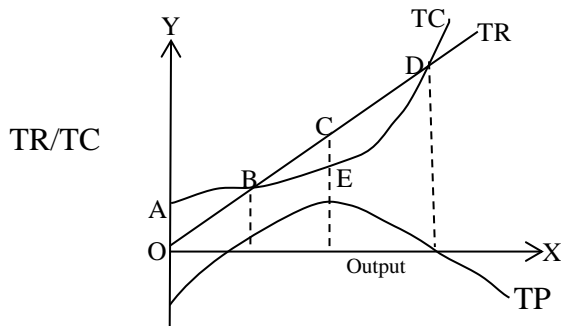
Profit = TR – TC

Break-even point = normal profit is satisfied at B and D.

- Where intersection of TC + TR (TR covers all TC)

- Profit is maximized on a graph where the vertical distance between TR and TC is the greatest.

- At break-even point B, the industry should PRODUCE MORE.

- At profit maximum point – the vertical distance between TR and TC is at its greatest, meaning the firm is earning maximum economic profits; therefore, industry should keep producing at this level of output, because more profits can still be made.

- At break-even point 2: STOP PRODUCING or REDUCE the quantity being produced. TR and TC curves are equal. Meaning the firm is now only earning a normal profit.

- Distance between TR and TC curves is measured by drawing tangents to both the curves. The distance is maximum when the tangent lines are parallel at point B. This is a situation of maximum profits and producer's equilibrium.

- At point D (second break-even point) all profits are earned.

- Beyond D, only loss. |

Question 6

(a)   Discuss the mechanism of *investment multiplier* with the help of a numerical example.   **[3]**

(b)   Complete the following table: **[3]**

Income (Y) ₹	Consumption (C)	APS	MPS
0	40		
50	70	---	---
100	100	---	---
150	120	---	---

(c) Explain the concept of inflationary gap with the help of a diagram. Discuss two **[6]** monetary measures to correct it.

Comments of Examiners

(a) A large number of candidates only wrote the formula of investment multiplier without explaining it. A few candidates were unclear in their explanation of the generation of income in different rounds as an effect of increase in consumption expenditure at the rate of MPC.
(b) Many candidates did not write the missing value of APS in the table. A few candidates wrote the value of MPC instead of the value of MPS.
(c) Several candidates were unable to show the inflationary gap at the full employment level of income for excess demand. In many answer scripts, the monetary measures were not explained correctly.

MARKING SCHEME

Question 6

(a) Mechanism of *investment multiplier:*

Suppose, there is an increase in investment by ₹100 crores, the NI will increase not only by 100 crore, but much more depending on the MPC. Suppose, it is 0·8, then the investment will multiply as shown in the table below:

Rounds of spending	Increase in investment (^I) ₹ in crore	Increase in consumption (^C) ₹ in crore	Increase in income (^I) ₹ in crore
1	100	--	100
2		0·8×100 = 80	80
3		0·8×80 = 64	64
4		0·8×64 = 51·2	51·2
		--	
		Total increase in consumption = ₹ 400 crores.	Total increase in income ₹ 500 crores

$\Delta Y = k\ \Delta I$

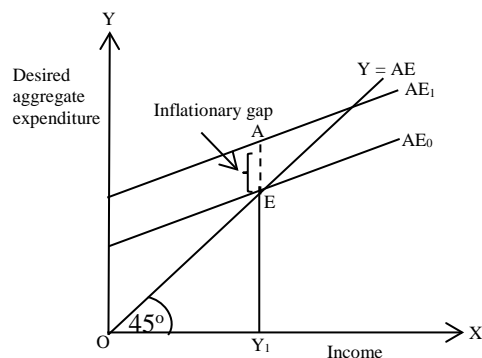|	$K = \dfrac{\Delta Y}{\Delta I}$ K = investment multiplier $\Delta Y -$ change in income $\Delta I -$ change in investment
(b)	Complete the following table:

Income (Y) ₹	Consumption (C) ₹	Savings (S)	APS=S/Y	MPS=^S/^Y
0	40	−40	--	--
50	70	−20	−0·4	0·4
100	100	0	0·0	0·4
150	120	30	0·2	0·6

(c)	Inflationary gap: The difference between the aggregate demand and aggregate output at full employment is known as excess demand. Suppose aggregate demand curve shifts upward to AE1 due to increase in Govt. expenditure. When the economy operates at full employment level, this excess demand cannot be wiped out as output cannot increase since the available resources are already fully employed, this excess demand will push up price level. This is called inflationary gap. Monetary measures: • Bank rate • Open market operation • Reserve ratio Bank rate or reserve ratio should be increased in order to reduce inflation. Selling of securities will also reduce inflation.

Question 7

(a)   Differentiate between *Revenue deficit* and *Fiscal deficit.*   **[3]**

(b)   What is an *indirect tax?* How is it different from a direct tax?   **[3]**

(c)   Show with the help of a diagram how exchange rate is determined under flexible exchange rate system.   **[6]**

Comments of Examiners

(a) Many candidates, instead of explaining revenue deficit as a *difference between revenue expenditure and revenue receipt* explained it as a *difference between expenditure and revenue of the government*. Several candidates, while explaining fiscal deficit did not mention *excluding borrowing*. Very few candidates wrote the implications of revenue deficit and fiscal deficit.

(b) Majority of candidates were able to explain the meaning of indirect tax and how it is different from direct tax. However, a few candidates went wrong by defining indirect tax and direct tax as tax imposed on expenditure and income respectively. Some candidates were unable to explain the taxes with reference to impact and incidence.

(c) Several candidates, while explaining the determination of exchange rate under flexible exchange rate system did not write that the exchange rate, *if above the equilibrium price would lead to excess supply of foreign exchange* and *if below, would cause excess demand*. Many candidates were unable to explain the stability of exchange rate. The meaning of exchange rate was also not mentioned by a few candidates.

MARKING SCHEME

Question 7

(a)	Revenue deficit and Fiscal deficit:
	Revenue deficit refers to excess of revenue expenditure of the government over its revenue receipts.
	Revenue deficit = Revenue expenditure – Revenue receipts.
	It tells the government current financial status.
	Fiscal deficit – it is the excess of total expenditure of the government over its revenue and capital receipts excluding borrowing.

	Fiscal deficit = Total budgetary expenditure – revenue receipts – capital receipts (excluding borrowing). It measures total resource gap of the government.
	(Two differences)
(b)	Indirect tax*:*
	An indirect tax is initially imposed on and paid by one individual, but the burden of which is passed over to some other individual who ultimately bears it. /(Impact falls on one person but the incidence is on other.)
	Direct tax:
	Direct tax is levied on a person and he bears the burden and pays it. /(Impact and incidence of the tax is on the same person.) Cannot shift the burden.
(c)	Equilibrium exchange rate is determined at the point in a system of flexible **exchange rate**, the **exchange rate** of a currency (like price of a good) is freely **determined** by forces of market demand and supply of foreign **exchange**. This is called **equilibrium** in foreign exchange market.
	It will be seen from the figure that the equilibrium exchange rate, that is, the equilibrium price of dollar in terms of rupees is equal to ₹ 45·50 per dollar at which demand for and supply curve of dollars intersect and therefore the market for dollars is cleared at this rate. At a higher price of dollars, e.g. ₹ 46 the quantity supplied of dollars exceeding the quantity demanded. With the emergence of excess supply of dollars, its price, that is, the exchange rate will again fall to ₹ 45·50. On the other hand, if the rate of exchange is lower say ₹ 44 per dollar, there will emerge the excess demand for dollars. This excess demand of dollars would push up the price of dollars to the level of ₹ 45·50 per dollar. *(Example not required)*

Question 8

(a)   Explain *any two* functions of the Reserve Bank of India.   **[3]**

(b)   Explain the following terms: **[3]**

    (i)   Fiat money

    (ii)   Deposit money

    (iii)   Token money

(c)   How do commercial banks create credit? Explain with the help of an example.   **[6]**

Comments of Examiners

(a) A number of candidates were unable to explain distinctively the functions of Reserve Bank as a banker's bank and its functions as a lender of the last resort. A few candidates got confused between the functions of a commercial bank and functions of the Reserve Bank.

(b) (i) Many candidates, in their definition of Fiat money, did not write that it is issued on the order of the government.
(ii) While defining Deposit money, several candidates did not mention that it is used by issuing cheques.
(iii) Token money was explained by several candidates as *actual value* instead of *face value*.

(c) Instead of explaining the process of credit creation by commercial banks through a numerical example, many candidates wrote only the general process of credit creation and yet did not explain Primary deposit and Derivative deposit. Several candidates did not explain the multiple banking systems. A few candidates wrote SLR in place of CRR.

MARKING SCHEME

Question 8

(a)		Functions of the Reserve Bank of India:
		• Monopoly of issue of currency notes/Bank of issue
		• Banker to Banks
		• Banker, fiscal agent and advisor to the government
		• Clearing house facility
		(Any two points with brief explanation)
(b)	(i)	Fiat money is inconvertible paper money and is issued on the order of the government and declared as a legal tender.
	(ii)	Deposit money refers to deposits held with the banks on the basis of which cheques could be drawn.
	(iii)	Token money is money where the face value is higher than the intrinsic value.
(c)		Credit creation: • Primary deposits • Derivative deposits

		• All depositors do not withdraw their money from bank at the same time. Banks keep a cash reserve for day to day transactions. Process: • Multiple banking systems. • Cash reserve is maintained • Loan withdrawn by a customer is transferred to second bank and from second to third. (*Process may be explained with a numerical example.*) New deposits $= 1/RR \times \Delta D$.

Question 9

(a) Explain the components of *compensation of employees* for calculation of National Income by Income method. **[3]**

(b) Explain how the following are treated in estimating National Income: **[3]**

    (i) Wheat grown by a farmer for self-consumption.

    (ii) Earnings of the shareholders from the sale of shares.

    (iii) Services rendered by family members to each other.

(c) From the following data, calculate National Income by Income method and Expenditure method: **[6]**

Item	₹ in crores
(i) Compensation of employees	700
(ii) Government final consumption expenditure	750
(iii) Net factor income from abroad	(-)10
(iv) Net exports	(-)15
(v) Profits	600
(vi) Net indirect taxes	60
(vii) Mixed income of self employed	350
(viii) Rent	200
(ix) Interest	310
(x) Private final consumption expenditure	1100
(xi) Net domestic capital formation	385
(xii) Consumption of fixed capital	65

Comments of Examiners

(a) Compensation of employees for calculation of National Income under the three components- wages and salaries in cash, in kind and supplementary labour incomes, was not explained by many candidates. Several candidates did not mention these three components or wrote different items under them in groups or placed items of one component under another one. A large number of candidates were confused between *items of wages in kind* and *supplementary income*.

(b)(i) Several candidates wrote that wheat grown by a farmer for self-consumption should not be included in estimating National Income.

 (ii)A few candidates wrote that the earning of the shareholders should not be included in estimating National Income but did not write the reason for the same.

 (iii)Several candidates wrote the correct answer that services rendered by family members to each other should be excluded in estimating National Income but were unable to write the reason for the same.

(c) Many candidates calculated the incorrect National Income as the formula used by them under the Income method was GDPfc = C.E. + profit + rent + interest + mixed income of self-employed. Under the Expenditure method GDPmp was incorrectly calculated by including net domestic capital formation along with other items.

MARKING SCHEME		
Question 9		
(a)		Components of *compensation of employees* for calculation of National income by Income method: • Wages and salaries in cash – bonus, commission, dearness allowance, house rent allowance, travelling allowance, leave travel concession, sick leave, etc. • Supplementary labour income – retirement pension, provident fund, group insurance, gratuity, etc. • In kind – rent free accommodation, free medical, free electricity, free or subsidized food, uniforms, etc.
(b)	(i)	Wheat grown by a farmer for self-consumption. To be counted as it is production in that year. It is added to the national income.
	(ii)	Earnings of the shareholders from the sale of shares are excluded as they only reflect the transfer of an asset, not an addition to the National Income.

	(iii)	Services rendered by family members to each other. Excluded as there is no way of evaluating these services.
(c)		Income Method:
		Compensation of employees + Profits + Rent + Interest + Mixed income of self- employed + NFIA.
		700 + 600 + 200 + 310 +350+(– 10) = ₹ 2150 Cr.
		Expenditure method:
		Private final consumption expenditure + Net domestic capital formation + Govt. final consumption expenditure + net exports – NIT + NFIA
		1100 + 385+ 750 + (−15) – 60 + (−10) = ₹ 2150 Cr.

GENERAL COMMENTS

Topics found difficult by candidates

- Question 2(c) : Law of equi-marginal utility.
- Question 5 (a): Loss incurred under perfect competition.
- Question 6(c) : Inflationary gap.
- Question 7(c) : Determination of exchange rate under flexible exchange rate system.
- Question 8(c) :Credit creation by commercial banks.
- Question 9 (c):Numerical on calculation of National Income.

Concepts in which candidates got confused

- Current account and capital account of Balance of Payment.
- Maximum price legislation.
- Indication of inflationary gap.
- Revenue deficit and fiscal deficit.
- Estimation of National Income under Income method.
- Calculation of APS and MPS.

Suggestions for candidates

- Understand diagrams properly and prepare theory along with the diagram.
- Revise the entire syllabus thoroughly from the text book and reference books.
- Clarify any doubts from the teachers for conceptual comprehensiveness.
- Understand key words/technical terms/definitions and phrases properly and then learn.
- Practise questions on National Income regularly.
- Avoid selective study.
- Practise extensively of plotting labelled diagrams/graphs.
- Write the formula along with the numerical.
- Read the question paper in the allotted reading time and allocate time to each question.
- Read the question carefully, analyse what is asked and then answer to the point. Give logical explanation wherever it is required.
- Practise of Sample Papers/Previous years' papers regularly reinforces the learning process.