

Yashoda Girls' Arts & Commerce College, Nagpur



Department of Commerce

Assignment

Session: 2018 – 2019



Name : Seema S. Vishwakarma

Stdn. : B.com. 4th Sem.

Subj : Income Tax

Year : - 2018-2019

Princip

Principal
Girls Arts & Commerce
Joshi Nagar, Nagpur-18

Income from other Sources



Question 1. Compute income from other sources of Mr. Swaminathan who held the following investment during the previous year 2019-20

- 1) Rs. 25,000; 12% Government Securities
- 2) Rs. 35,000; 10% Central Govt. Loan
- 3) Rs. 50,000; 12% Debentures of a Trading Co.
- 4) Rs. 40,000; 10% Kanchi Post Trust Bonds.
- 5) Rs. 30,000; 15% Debentures of a Limited Company (unlisted)
- 6) Rs. 20,000; 10% years National Plan limited
- 7) Rs. 12,000; 10% (Tax Free) Debentures of a limited company (unlisted).
- 8) Rs. 10,000; 9% preference shares of Govt. paper mill.

On 1st September 2019 he bought Rs. 50,000 10% Maharashtra Govt. Bonds for Rs. 60,000, the interest being payable on 30th June and 31st December for this purpose. Bank charged Rs. 500 as collection charges and 2% Commission on purchase of securities.

Answer :-

Calculation of Income from other source of Mr. Sumichathan.

Section 56-59

U/S - 57U)

P.Y = 2019-2020

A.Y = 2020-2021

Particular	Rs.	Rs.
1) 25000, on 12% Govt. securities	-	8000
2) 35000, on 10% Central Govt. Loan.	-	3500
3) 50,000, on 12% Debentures of Vally trading co.	-	6000
4) 40000, on 10% Kandla port Trust Bonds	-	4000
5) 30000, on 15% Debentures of a limited company (unlisted)	-	4500
6) 20,000, on 10% 70 years National plan Certificate.	Tax Free	-
7) 12000, on 10% (Tax Free) Debentures of a limited company (unlisted)		
Gross Interest Rs. 1200		
$\text{Gross up} = \frac{\text{Gross Interest} \times 100}{79.6}$ $= \frac{1200 \times 100}{79.6}$ $= 1507$		



8) 10000, 9% Preference

Shares of Govt. paper mill Tax Free

9) 50,000 on 10% Maharashtra

Govt. Bonds (for six months) 2500

25007

Deductions

1) Collection charges 500

Income from other sources 24507





Question 2. Shri Rohan is a businessman dealing in cloth. On 1st April 2006 the position of his investment was as under:-

- 1) Rs. 48000, 7½% Govt of India Loan
- 2) Rs. 72000, 9% (tax free) Debentures Binlo Jute Mills Ltd. (Listed)
- 3) Rs. 10000, 12% Debentures of Aniya Co. Ltd.
- 4) Rs. 50000, 7% Rajasthan Govt. Loan.
- 5) Rs. 20,000, 7% Capital Investment Bonds.

Calculate the income under the head Income from other sources.

Answer:-

Calculate of Income from other sources of Shri Rohan.

Section :- 56-59

PY - 2019-2020

U/S :- 57(1)

AY - 2020-2021

Particulars	Amt.	Amt.
1) 48000 7½% Govt. of India Loan.	-	3600



27	72000, 9% (Tax Free) Debentures Baroda Jute mills Ltd. (Listed)		
	Gross : $\frac{6480 \times 100}{89.8}$		
	= 7216		7216
35	70,000, 12% Deben. of Anyc co. Ltd.		12000
45	50,000 7% Rajasthan Govt. Loan		8500
55	20,000 7% Capital Investment Bands	Tax Free	
			15516
	Income from other sources		15516



Income from House Property :

Question³: Ms. Nagarjun owns two houses the particulars of which are given below for the previous year 2006-07

Particulars	House A Rs.	House B Rs.
Standard Rent	36000	56000
Rent Received	36000	Nil
Fair Rent	42000	62000
Municipal Valuation	24000	44000
Municipal Taxes (Paid)	1200	2200
Municipal Taxes (Due)	1200	1200
Ground Rent paid	1000	500
Interest on loan for construction	15000	20000

Compute Income from house property for the assessment year.

Solution: Income from house property of Ms. Nagarjun.

P.Y 2006-07

A.Y-2007-2008



	House 'A' (Let out)	Amt	Amt	Amt
	1) Fair Rent	42000		
	2) Municipal Valuation (which ever is more)	21000		
	3) Standard Rent which ever is less (i-ii)	36000		
	4) Rent Received (which ever is more)	36000	36000	
	& iv - Municipal Taxes		1200	
			34800	
	- Deductions (1/5 24)			
	i) Interest on loan	15000	15000	
	Income from let out house		19800	19800
	House 'B' (Self occupied)			
	Annual value	Nil	Nil	
	- Deductions (1/5 24)			
	Interest on loan		20000	-20000
	Loss from house Property			(-1200)



Income from Salary

Question 4: Mr. Suresh Bele is employed in a Company in a Mumbai received the following salary perquisites from his employer during the previous year 2017-18.

- 1) Basic pay Rs. 16000 P.M.
- 2) He also gets D.A at 20% of his Basic pay.
- 3) House rent allowance of Rs. 2500 P.M.
- 4) Entertainment allowance of Rs. 700 P.M.
- 5) Wardens allowance of Rs. 500 P.M.
- 6) Free medical treatment was availed by him and his family members in a hospital owned by the company. The cost of such treatment in any other hospital would have been Rs. 20000.
- 7) He owns a car which he used for office and private purpose. The running maintenance expenses of the car are paid by the com. Rs. 500/-
- 8) Ms. Suresh is paying Rs. 3000 P.M. as house rent.

Compute taxable income from salary of Mr. Suresh for the A.Y. 2017-18.



Solution :- Computation of Income from Salary of Mr. Suresh Bile

Previously 2017-18
A.Y : 2018-2019

Particulars	Rs.	Rs.
1) Basic Salary (16000 x 12)		192000
2) Dearness Allowance (10% of salary)		38400
3) Entertainment Allowance (7000 x 12)		84000
4) Travellers Allowance of (10000 x 12)		96000
5) Force Medical treatment in a hospital owned by the company	Exempted	Nil
6) He own car used pur both purpose exp. paid by the company	Exempted	Nil
7) House rent allowance 25000 x 12		80000
8) EX House rent allowance 80000		
b) House rent allowance paid - 10% of salary	36000 19200	
		16800



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Date _____

(c) 50% of salary
(192000) 96000

Less - a, b, c, which ever is
less

168000

129000

Gross salary
Deduction N/s Tc

261600

Nif

Income from salary

261600

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Director, IQAC

~~College of Arts & Commerce~~
~~College of Commerce, Wajpur~~



TOPIC

1. Mean, Median and mode merits demerits and problem with solution.
 2. Standard deviation 2 problem with solution.
 3. Business mathematics 3 problem with answers.
-

Mean

Q. What is mean?

Ans: Mean is an essential concept in Mathematics and Statistics. The Mean is the average or the most common value in a collection of numbers.

In Statistics, it is a measure of central tendency of a probability distribution along with median and mode. It is also referred to as an expected value.

MEAN: (Arithmetic Average) 'a'

Calculation of mean in individual series:

Steps: 1) Obtain the total size and denote it by 'M'
2) Apply the following formula:

$$a = \frac{\sum M}{n}$$

where 'a' stands for mean

'M' stands for total of size of item.

'n' Number of items.



Arithmetic Mean:

It is also known as a mean, it is defined as the sum of all items divided by the number of items.

Merits of Mean:

It is simple to understand and easy to calculate. It is based on each and every item of the series. It is least effected by fluctuations of sampling. It balances the values on either side of it.

Demerits mean:

It is affected by extreme items. It gives more importance to larger value and less important to smaller values. It is not an actual value in the data.

Calculation of mean in Continuous series:

Step: 1) obtain the mid-value (mid

point) of each class and denote them by M.V.

2) Take an assumed mean and denote it 'x'.

3) From mid-value of each class deduct the assumed mean and denote it by $d_i x$.

4) Multiply the respective frequency of each class by these deviation and denote by $f d_i x$ and obtain total $\sum f d_i x$.

5) Apply the formula.

$$a = x + \frac{\sum f d_i x}{n}$$



Median

Q. What is Median?

Ans: Median is a statistical measure that determines the middle value of dataset listed in ascending order. (i.e. from smallest to largest value.) The measure divides the lower half from the higher half of the dataset. Along with mean and mode, median is measure of central tendency.

MEDIAN - (M)

Calculation of median in individual series.

Steps: 1) Arrange the data in ascending order of magnitude.

2) Apply the formula.

Median $\hat{=}$ $M =$ Size of $\left(\frac{n+1}{2}\right)$ the item

The median would be value of variable of the size of item which



is obtained as mentioned above.

If the number of size of item is in decimal point then apply the following formula and obtain the median.

Calculation of median from Continuous Series.

Steps: Arrange the series in ascending order.

2) Find the cumulative frequency.

3) Determine the particular class in which the value of Median.

use $\left(\frac{n}{2}\right)$ as mark of median.

4) Apply the formula of interpolation for determining the exact value of median.

$$\text{Median} = l_1 + \frac{l_2 - l_1}{f_1} (m - c)$$

where l_1 - lower limit of median group.

l_2 - upper limit of median group.

f_1 - Frequency of median group.

m - Rank of the median.

c - Cumulative frequency of class preceding to median group.

Median :

Median is the middlemost item of the series, provided the series is arranged either in ascending order or in descending order of magnitude.

Merits of Median :

It is simple to understand and rigid to define. It is easy to calculate. It is deter



mined by graph. It is not changed by addition of some items.

Demerits of Median:

It is necessary to arrange the data for calculating median. It is affected by sampling fluctuations. It is not suitable of algebraic method.

Mode

Q. What is the mode?

Ans: The mode is the value that appears most frequently in a data set. A set of data may have one mode, more than, or no mode at all. Other popular measures of central tendency include the mean, or the average of a set, and the median, the middle value in a set.

Mode is the item which repeat the highest time.

Mode :

It is the value which occurs most frequently in a set of observation on the point of maximum frequency. It is the positional value. The item which represents more number of times in the series is known as mode.

Merits of mode :

Mode can be determined by inspection. It is easy to calculate. It is determined by graph. It is not affected by extreme items.

Demerits of mode :

It is not stable average. Many times, it is difficult to determine mode. The value is not based on each and every item.

Q1.

Marks	10-20	20-30	30-40	40-50	50-60	60-70
f	2	1	1	2	1	3

Solution:

Marks (M)	NO. of Student (f)	Mid - Value (M.v)	Dev. from as av. (dx/x=35)
10-20	2	15	-20
20-30	1	25	-10
30-40	1	35	0
40-50	2	45	+10
50-60	1	55	+20
60-70	3	65	+30

Dev. from as av.

 $\sum f \cdot (fdx)$

-40

-10

0

+20

+20

+90

 $\sum f dx = 80$

Shrikrupa

$$a = x + \frac{\sum f dx}{n}$$

$$= 35 + \frac{80}{10}$$

$$= 35 + 8$$

$$= 43$$

Thus the mean is 43 Marks.

Q2. Determine the median from the following table.

Income	No. of Persons
Below 30	69
30 - 40	167
40 - 50	207
50 - 60	65
60 - 70	58
70 & above	10

Solution:

Income (m)	No. of Person (f)	Cumulative Frequency (cf)
20 - 30	69	69
30 - 40	167	236
40 - 50	207	443
50 - 60	65	508
60 - 70	58	566
70 - 80	10	576

$n = 576$

$$m = \text{Size of } \left(\frac{n}{2} \right) \text{th item.}$$

$$= \text{Size of } \left(\frac{576}{2} \right) \text{th item.}$$

$$= \text{Size of } (288) \text{th item.}$$

Size of (288)th item which lies in the group of 40-50
By interpolation:

$$= l_1 + \frac{l_2 - l_1}{f_1} (m - c)$$

$$= 40 + \frac{50 - 40}{207} (288 - 236)$$

$$= 40 + \frac{10}{207} (52)$$

$$= 40 + \frac{520}{207}$$

$$= 40 + 2.51$$

$$= 42.51$$

Thus Median is Rs. 42.51

Q3. Compute mode from the following series:

Age:	10	20	30	40	50	60
No. of Persons	15	32	51	78	97	110

Age	Tally bars	I	II	III	IV	V	VI
0-10		15					
10-20	I	17					
20-30	III	19					
30-40	III III	27					
40-50	III	19					
50-60	I	13					

Cumulative frequencies (CF) are indicated by arrows:

- 15 (at age 10)
- 32 (at age 20)
- 51 (at age 30)
- 78 (at age 40)
- 97 (at age 50)
- 110 (at age 60)

Mode lies in group of 30-40
By Interpolation:

$$= l_1 + \frac{f_1 - f_0}{2f_1 - f_0 - f_2} (l_2 - l_1)$$

$$= 30 + \frac{27 - 19}{2(27) - 19 - 19} (40 - 30)$$

$$= 30 + \frac{8}{16} \times 10$$

$$= 30 + \frac{80}{16} = 30 + 5 = 35$$

Thus mode is 35 years.

Standard Deviation (σ)

Calculation of Standard deviation in Individual Series:

- Steps:
- 1) Take the deviations of the item from an assumed mean and denote these deviation by ' dx '.
 - 2) Square these deviations and obtain the total $\sum dx^2$.
 - 3) Apply the following formula.

$$S.D = \sigma = \sqrt{\frac{\sum dx^2}{n} - \left(\frac{\sum dx}{n}\right)^2}$$

Q. 1 Goals scored by two teams A and B in a football season were as follows. State which team is more constant.

No. of goals scored in a match	No. of matches Team (A)	played (Team B)
0	27	17
1	9	9
2	8	6
3	5	5
4	4	3

Team A

Goals scored in a match (m)	No. of matches (f)	Dev. from as. av. $\times f$ (obs \times 2)	Dev. as. av. $\times f$ (fdx)	Dev. as. a. squared $\times f$ (fdx) ²
0	27	-2	-54	108
1	9	-1	-9	9
2	8	0	0	0
3	5	+1	+5	5
4	4	+2	+8	16
	$n = 53$		$\sum fdx = -50$	$\sum fdx^2 = 138$

$$a = \bar{X} + \frac{\sum fdx}{n}$$

$$= 2 + \frac{-50}{53}$$

$$= 2 - .94$$

$$= 1.06$$

$$S.D. = \sigma = \sqrt{\frac{\sum fdx^2}{n} - \left(\frac{\sum fdx}{n}\right)^2}$$

$$= \sqrt{\frac{138}{53} - \left(\frac{-50}{53}\right)^2}$$

$$= \sqrt{2.60 - (-.94)^2}$$

$$= \sqrt{2.60 - .89}$$

$$= \sqrt{1.71}$$

$$= 1.31$$

$$C.V = \frac{\sigma}{\alpha} \times 100$$

$$= \frac{1.31}{1.06} \times 100$$

$$= 123.58\%$$

Standard deviation $\rightarrow (\sigma)$:

$$\sigma = \sqrt{\frac{\sum f d x^2}{n} - \left(\frac{\sum f d x}{n}\right)^2} \times 10$$

$$= \sqrt{\frac{290}{100} - \left(\frac{60}{100}\right)^2} \times 10$$

$$= \sqrt{2.90 - (0.60)^2} \times 10$$

$$= \sqrt{2.90 - 0.36} \times 10$$

$$= \sqrt{2.54} \times 10$$

$$= 1.594 \times 10$$

$$= 15.94$$

Business Mathematics

Mathematics is the Soul of any business. Because a business primarily revolves around the transaction of money or products that have some monetary value. Involvement of money makes it extremely important to have sufficient knowledge about the basics of Calculations. This is where business mathematics comes into play.

It deals with the fundamental topics that one needs to carry out business related calculations. So, here we are going to learn about mathematical tools needed for business calculating along with their applications.

Sequence and Series

If a set is a collection of objects, then we can think of a sequence as a collection with its objects arranged in a fixed linear pattern. That means all the elements should follow

a particular Scheme and thus unlike in Sets, these elements can't interchange places. But, an element may occur twice depending upon the rule governing the sequence. Now, a series is nothing but the addition of all the terms of a sequence. The knowledge of these two topics comes in very handy while working with problems related to compound interest, recurring deposits etc.

I. Arithmetic progression:

An arithmetic progression or arithmetic sequence is a sequence in which the difference between any two consecutive terms is constant. The difference between the consecutive terms is known as the common difference and is denoted by 'd'.

2. Geometric progression :

A geometric progression is a sequence in which any element after the first is obtained by multiplying the preceding elements by a constant called the common ratio which is denoted by 'R'.

Mathematics is an important part of managing business. Business and mathematics go hand in hand this is because business deals with money and money encompasses everything in itself. There is a need for everyone to manage money at some point or the other to take decisions which requires everyone to know mathematics. Commercial organizations use mathematics in accounting, inventory management, marketing, sales forecasting, and financial analysis. It helps you know the financial formulas, fractions, measurements involved in interest calculation, hire rates, salary calculation, tax calculation etc.

Q. 1 Find the amount of Rs. 40,000 at 12% per annum in 4 years compounded quarterly.

Solution:

Here: $P = 40,000$; $R = 12\%$ p.a (quarterly 3%)

$N = 4$ years (quarterly 16)

$$\text{Now: } A = P \left(1 + \frac{R}{100}\right)^n$$

$$A = 40,000 \left(1 + \frac{3}{100}\right)^{16}$$

$$= 40,000 (1.03)^{16}$$

$$= 40,000 \times 1.6047$$

$$= \text{Rs. } 64,188$$

Q. 2 The amount with Compound interest of a certain principal at 5% p.a. for two years is Rs. 35280. Find out the principal. (May 2009)

Ans: $A = 35280$, $P = ?$, $N = 2$, $R = 5\%$

$$A = \left(1 + \frac{R}{100}\right)^N$$

$$35280 = P \left(1 + \frac{5}{100}\right)^2$$

$$35280 = P (1 + 0.05)^2$$

$$35280 = P (1.05)^2$$

$$35280 = P \cdot 1.025$$

$$P = \frac{35280}{1.025}$$

principal is Rs. 32000

Q.3 The compound interest of a certain sum for 3 years at 10% p.a. interest is Rs. 1489.50. Find the simple interest of his sum at the same rate and for the same period.

Solution: Compound interest Rs = 1489.50

Rate of Compound interest (R) = 10% P.a.

Time (T) = 3 years

Let sum of principal (P) = Rs. P

$$\text{Compound interest} = P \left(1 + \frac{R}{100} \right)^T - P$$

$$1489.50 = P \left(1 + \frac{10}{100} \right)^3 - P$$

$$P(1.331 - 1)$$

$$= 0.331P$$

$$P = \frac{1489.50}{0.331}$$

$$P = 4500$$

Principal = Rs 4500

Rate of Simple interest (R) = 10% P.a.

Time (T) = 3 years

$$\text{Simple interest} = \frac{P \times R \times T}{100}$$

$$= \frac{4500 \times 10 \times 3}{100}$$

$$= 1350$$

~~OP~~
~~15/06/2020~~



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Principal
Girls Arts & Commerce
Bach Nagar, Nagpur-46