VVM's Shree Damodar College of Commerce & Economics
FY BBA(FS), Semester I, Semester End Assessment, October 2019
SUBJECT: BFS GEC1-Quantitative skills

Timing: 2 Hours **Marks: 60**

Instructions:

- All questions are compulsory (internal choice is provided)
- Use of Non Programmable calculators is permitted.
- Use of graph paper wherever necessary

Q1. Attempt the following: **[2x6=12 Marks]**

A) Represent the following data showing the relative breakup of monthly expenditure of two families by percentage bar diagram.

	Grocery	Clothing	House rent	Communication	Fuel
Family A	35	15	20	20	10
Family B	30	16	22	12	20

B) Draw a histogram from the following data:

Height in cms	150-155	155-160	160-165	165-170	170-175	175-180
No. of persons	7	15	37	29	10	2

OR

Q1. Attempt the following: **[2x6=12 Marks]**

X) Draw a less than cumulative frequency curve for the following data

Wages	**Number of Workers**
30-40	1
40-50	3
50-60	11
60-70	21
70-80	43
80-90	32
90-100	9

Y) Draw a pie diagram to represent following data:

Items	Average expenditure (in Rs.)
Food	700
Clothing	300
Rent	500
Medical	200
Miscellaneous	100

Q2. Attempt the following **[3x4=12 Marks]**

A) If for an A.P. a=2, t_7=20, find t_{21} and d.

B) Prove that the sum of n terms of the series;

$$11 + 103 + 1005 + \cdots = \frac{10}{9}(10^n - 1) + n^2$$

C) For the G.P. 3, 6, 12....., find t_n and t_{10}.

OR

Q2. Attempt the following: **[2x6=12 Marks]**

X) Find the three numbers in G.P. such that their sum is 21 and their product is 216.

Y) Find the sum of all natural numbers from 100-400, which are exactly divisible by 4.

Q3. Attempt the following: **[3x4=12 Marks]**

A) Find the nature of roots and roots of the following quadratic equation:
$3x^2+2x+1=0$

B) Solve the following system of linear equations by substitution method:
$2x+y=35$
$3x+4y=65$

C) In a two digit number. The units digit is thrice the tens digit. If 36 is added to the number the digits interchange their places. Find the two digit number.

OR

Q3. Attempt the following: [3x4=12 Marks]

X) Solve the following system of linear equation by elimination method:
$2x-3y=7$
$5x-6y=9$

Y) Find the nature of roots and roots of quadratic equation:
$2x^2-8x+8=0$

Z) 2000 tickets were sold in an exhibition. Cost of a ticket for an adult is Rs.10 and for student is Rs.5. Total amount collected was Rs.13,500. Find the number of adult tickets and student tickets sold.

Q4. Attempt the following: **[3x4=12 Marks]**

A) At what interest rate will Rs.2000 yield Rs.150 as simple interest in 6 months?

B) How much will Rs.25000 amount to in 2 years at compound interest if the rates for the successive years are 4% and 5% per year?

C) Find the future value of the ordinary annuity of Rs.1000 a year for 12 monthly payments that earns interest at 12% p.a. compounded monthly. (where $1.01^{12}=1.127$)

OR

Q4. Attempt the following: **[3x4=12 Marks]**

X) Find the present value of an annuity of Rs.800 payable at the end of each six months for 5 years, if money is worth 6% converted semi-annually.(Where $1.03^{-10}=0.7447$)

Y) Find the future value of the ordinary annuity Rs.500 at the end of every 3 months for 10 years at 8% p.a. compounded quarterly.(Where $1.02^{40}=2.208$)

Z) Find the simple interest on Rs.7300 from May 11, 2019 to September 11, 2019, at 5% p.a.

Q5. Attempt the following: [3x4=12 Marks]

A) A shopkeeper sold goods for Rs.2000 at a profit of 5%. Find the cost price of the goods.

B) Norman earns 6% commission on each basketball uniform he sells. If each uniform cost Rs.100 and he sells 21 uniforms to baseball team. How much commission will Norman earn?

C) At a clearance sale, all goods are on sale at 45% discount. If I buy a shirt marked Rs.600. how much would I need to pay.

OR

Q5. Attempt the following: **[3x4=12 Marks]**

X) After allowing discount of 12% on the marked price of an article, it is sold for Rs.880. Find the marked price.

Y) Broker sold a client's house for a commission of 6%. The client received Rs.47000 from the transaction after the commission was deducted. How much did the broker earn?

Z) A man buys a shirt and trousers for Rs.371, if the trouser costs 12% more than the shirt; find the cost of the shirt.

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