PSG COLLEGE **OK ARTS & SCIENCE**
(AUTONOMOUS)

MCom (IB) DEGREE EXAMINATION JUNE 2018
(Second Semester)

Branch **INTERNATIONAL BUSINESS**

BUSINESS STATISTICS & MATHEMATICAL OPTIMIZATIONTECHNIQUES

rime : Three Hours Maximum : 75 Marks

Answer **ALL** questions
ALL questions carry **EQUAL** marks (5 x 15 75)

1 a Define statistics and state its uses in busi ness. (5)

b f ind mean & median for given da la: (10)

Class limits :	130-134	135-139	; -W!-' 44	145-149	150-154 1	54-159
frequence :	5	5	2K	24	17	10

OR

c Define skewness and its types (5)

d Calculate standard deviation and i Is co-c fiicicnt of variation. (10)

Marks.	5-10	lu-15	: 5-2o	0-25	25-30	30-35	35-40
No. of Students :	6	5	1 *\	10	5	4	▪>

2 a Define correlation and its types. (5)

b Calculate the correlation co-etTicient betw een the marks of two students from the given data: (10)

Marks of student I :	64	65	66	67	68	69	70
Marks of student IT :	66	6~	65	68	70	68	72

OR

c Explain Poisson distribution and its properties. (5)

d Write the procedure of testing of h\ pothesis. (10)

a A random sample of students of XY/ university was selected and asked their opinions about "Autonomous Colleges". The results are given below. The same number of each sex was included within each class-group. Test the hypothesis at 5° o level that opinions are independent of groupings: (AC Autonomous college) (N,, :|· Sdi 7.815).

Class	Numbers f avouring AC	Opposed to AC	Total
I UG	120	80	200
11 UG	130	70 :	200
ill UG	70	30	100
PG	80		”100
Total	400	' i 200	600

OR

b The heights of six randomly chosen sailors are (in inches): 63. 65. 68. 69, 71 and 72. Those of 10 randomly chosen soldiers arc 61, 62, 65, 66. 69, 69. 70. 71. 72 and 73. Discuss, the height that these data throw on the suggestion that sailors are on the average taller than soldiers, (too, lor 14 di' 1.76). (15)

Cont...

4 a Explain the scope of operations research. (5)

b f ind the initial feasible solution of the transportation problem by using, NWCM. (10)

factory	Ware aouse				Sup pi
	W,	! VO	\V$_3$	W$_4$	
f.	14	! 25.....	45	5	6
1*2	65	(25	35	55	8
1* 3	35	! 3	65	15	16
Demand	4	7	6	13	

OR

c A departmental head has four subordinates, and four tasks to be performed. The subordinates differ in efficiency, and the tasks differ in their intrinsic difficulty. His estimate, of the time each man would take to perform each task, is given in the matrix below:

	Men			
asks	F	F	G	11
A	18	26	17	11
B		28	14	26
C	38	19	18	15
L)	1 9	26	24	10

How should the tasks be allocated, one to a man. so as to minimize the total man hours'? (1 5)

a fixplain the decision making under uncertainty,

b Briefly explain the HMV and FOL criterion. (10)

OR

e hxplain dominance principle for 2x2 games. (7)

d Find the optimum strategics of the players in the following game and .he game.

	Player B	
	1	3
Flavor A 1	25 20	35
	20 45	55
	58 40	42