

**THE OPEN UNIVERSITY OF SRI LANKA**  
**FACULTY OF HEALTH SCIENCES**  
**DEPARTMENT OF PSYCHOLOGY & COUNSELLING**  
**2020/2021 – SEMSETER I—FINAL EXAMINATION**



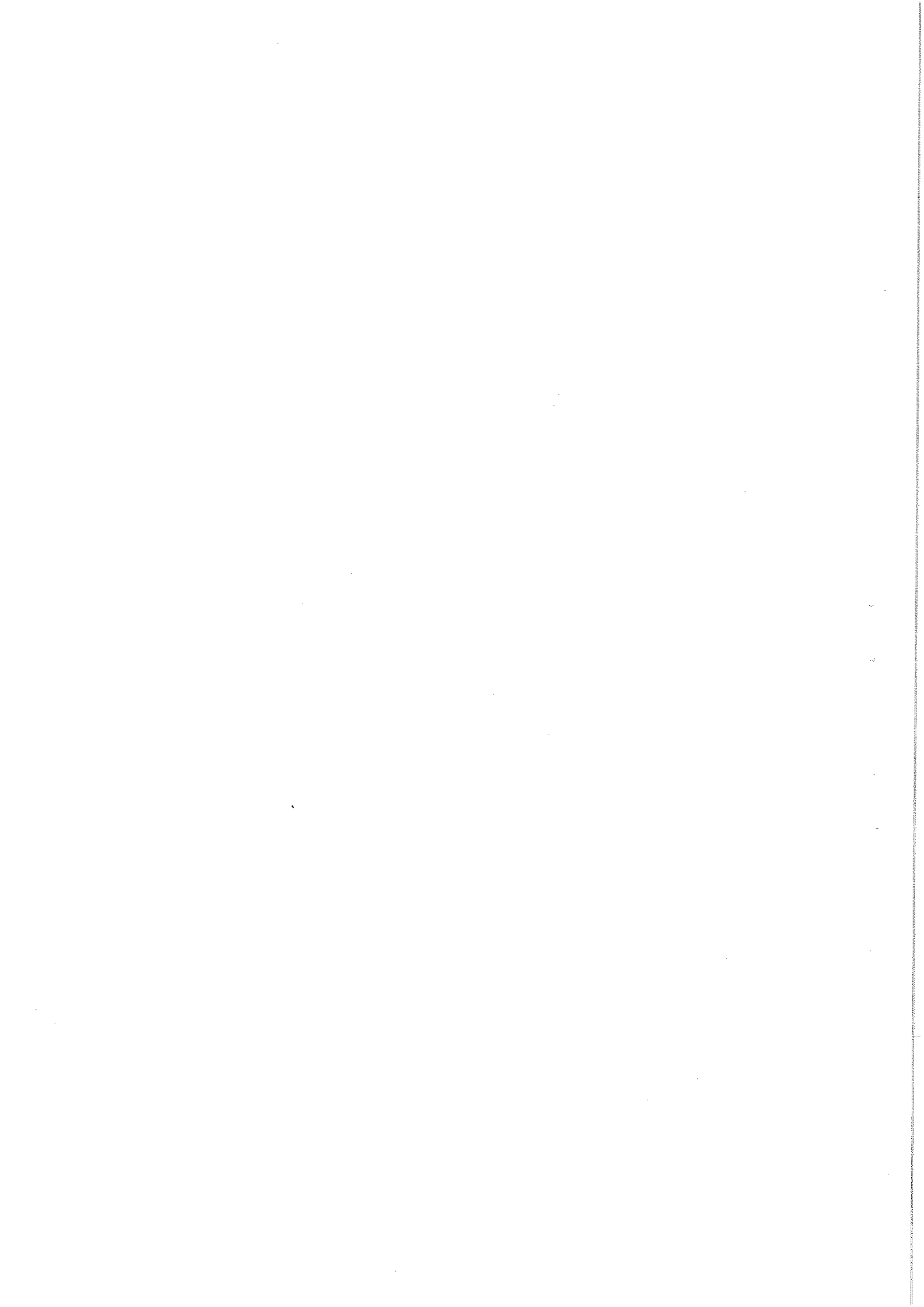
**BSC (HONS) IN PSYCHOLOGY**  
**PLU 5305 - ADVANCED RESEARCH METHODS AND STATISTICS- LEVEL 5**  
**FINAL EXAMINATION PAPER**  
**DURATION: 02 HOURS**

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DATE: 23.03.2022

TIME: 1.30 pm – 3.30 pm

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INDEX NO: .....

## SECTION 2: ESSAY QUESTIONS (60 MARKS)

Choose 04 out of the 06 questions including at least one question from Section B and answer using the provided answer sheets.

### Section A

- 2.1 a) Explain two (02) different situations that you use One-Way ANOVA and Two-Way ANOVA to analyse your data. (Explain examples with variables, their types, and the objective of using the test). *(7 Marks)*
- b) Explain the role of a Confounding variable and a Mediating variable with proper examples. *(8 Marks)*
- 2.2 a) "A descriptive analysis of a survey is an important and essential component to the researcher and for an examiner/audience". Elaborate this statement and discuss the importance of a descriptive analysis. *(5 Marks)*
- b) Explain four (04) methods that can be used to ensure/ test the accuracy of a multiple regression analysis. *(10 Marks)*
- 2.3
- a) What are the outliers and influential points in a data set? Explain the benefits of removing such data points from a data set. *(5 Marks)*
- b) Discuss the reasons for using Parametric and Non-parametric statistical tests along with advantages and disadvantages of the two techniques. *(4 Marks)*
- c) Compare and contrast "Quantitative" and "Qualitative" research approach. *(6 marks)*

- 2.4 Figure 1 illustrates the results of the initial confirmatory factor analysis. The analysis consists of four (04) variables/dimensions as the dependent variable (Dep1-Dep6) and three independent variables as Ind11-Ind14, Ind21-Ind24, and Ind31-Ind36. Explain how do you develop the dimensions by eliminating unnecessary/inappropriate items (if any). *(15 marks)*

**Figure 1: Factor Analysis**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.700
Bartlett's Test of Sphericity	Approx. Chi-Square	584.254
	df	190
	Sig.	.000

	Initial	Extraction		Initial	Extraction	
Dep1	1.000	.561		Ind21	1.000	.567
Dep2	1.000	.651		Ind22	1.000	.602
Dep3	1.000	.480		Ind23	1.000	.628
Dep4	1.000	.555		Ind24	1.000	.655
Dep5	1.000	.358		Ind31	1.000	.416
Dep6	1.000	.278		Ind32	1.000	.463
Ind11	1.000	.637		Ind33	1.000	.645
Ind12	1.000	.575		Ind34	1.000	.387
Ind13	1.000	.709		Ind35	1.000	.520
Ind14	1.000	.581		Ind36	1.000	.655
Extraction Method: Principal Component Analysis.						

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings <sup>a</sup>
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
	1	4.958	24.792	24.792	4.958	24.792	24.792
2	2.402	12.008	36.800	2.402	12.008	36.800	2.809
3	2.089	10.446	47.245	2.089	10.446	47.245	3.555
4	1.475	7.375	54.620	1.475	7.375	54.620	2.408
5	1.262	6.312	60.932				
6	1.000	5.002	65.934				
7	.931	4.653	70.587				
8	.802	4.009	74.596				
9	.704	3.520	78.116				
10	.594	2.972	81.088				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Pattern Matrix <sup>a</sup>				
	Component			
	1	2	3	4
Dep1				.759
Dep2				.815
Dep3				.698
Dep4		-.500		.500
Dep5				
Dep6				
Ind11	.854			
Ind12	.816			
Ind13	.933			
Ind14				
Ind21				
Ind22			.689	
Ind23			.903	
Ind24			.708	
Ind31		.633		
Ind32				
Ind33		.690		
Ind34		.567		
Ind35				
Ind36				
Extraction Method: Principal Component Analysis.				
Rotation Method: Promax with Kaiser Normalization.				
a. Rotation converged in 7 iterations.				

## Section B

- 2.5 This is a part of a transcript from an interview held with a male aged 55 years and currently on medical leave. He is a chronic alcoholic who is under medical care at a rehabilitation facility. Read this carefully and answer the following questions.
- List coding categories emerging from the above answers given by the participant. (6 marks)
  - Provide a table of themes with emerging themes and they should be supported by interview extracts. (9 marks)

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**Question:** Can you explain about how you understand about your current health status?

**Answer:** I have made a mess...a big mess of my life...nothing can be reversed now as I am an alcoholic now. They say I will die soon if I cannot stay sober after leaving this treatment centre...I don't know if I can...well...health is not just my liver....(laughs loudly).. I feel I lost most of the time and cannot do anything without taking my daily drinks (sighs heavily) ..you know it's not that easy...as I drank this stuff since I was still at school ... I hope they can help me this time...

**Question:** Can we talk about how alcohol is affecting your relationships with others? (partners, friends or relatives)

**Answer:** Well...as I said...I have made a mess of my life...I got only my sister now....my wife and children are living separately...they threw me out as soon as I was sent on compulsory medical leave...my sister is a good soul...she always cared for me...even when I was a kid who always got into trouble...

**Interviewer:** This must be a very difficult situation for you.

**Question :** Can you also talk a about your relationship with your friends and others who were close to you?

**Answer:** Oh...they are long gone...when I was getting warnings from the managers and I had to pay for all these treatment...they went away...I was no use to them anymore...they never cared...I only understand now. I feel really ashamed now...(tears)...I should not have trusted their words...I was apparently a fun guy when I take the drink...so they always encouraged me to take a shot after work...what lies...now no one cares..

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2.6 Qualitative research in Psychology field is a growing sub field of research with many challenges.

a) Interviews are the main method of data collection. Explain the term 'neutral facilitator' related to the interviewing process? *(5 marks)*

b) Discuss the strengths versus limitations of using qualitative methods in psychological research. *(10 marks)*

-----END OF QUESTION PAPER-----