

Question Paper

Exam Date & Time: 10-Dec-2018 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER M.O.T./ M.Sc. M.L.T./ M. Opt./ M.Sc. R.T./ M.Sc. ECOCARDIOGRAPHY/M.Sc. CARDIAC CATHETERIZATION & INTERVENTIONAL TECHNOLOGY/. / M.Sc. H.I.M./ M.Sc. M.I.T./M.P.T./M.Sc. E.S.S./ M.Sc. N.M.T./ M.Sc. M.R.P./ M.Sc. RRT&DT/M.Sc. AUDIOLOGY/M.Sc. (S.L.P.)/M.Sc. CLINICAL PSYCHOLOGY DEGREE EXAMINATION - DECEMBER 2018

SUBJECT : RES 601 - BIOSTATISTICS & RESEARCH METHODOLOGY/RESEARCH METHODOLOGY & BIOSTATISTICS/ADVANCED BIOSTATISTICS & RESEARCH METHODOLOGY/RESEARCH METHODS, EPIDEMIOLOGY & STATISTICS/BIOSTATISTICS (2018 SCHEME)

Monday, December 10, 2018 (10.00 - 13.00)

Marks: 100

Duration: 180 mins.

- 1) The following are the arterial activated partial thromboplastin time values recorded from (8) a group of 10 patients. Obtain the values of median and interquartile range.
20.7 23.2 29.6 34.4 56.2 30.1 21.3 26.5 21.8 35.2
- 2) **Differentiate between the following:**
- 2A) Quantitative and qualitative variables (4)
- 2B) Cluster sampling and stratified sampling (4)
- 2C) Type I error and type II error (4)
- 2D) Sampling distribution and standard error (4)
- 3) **Explain the following with an example:**
- 3A) The situation to use logistic regression and its model (4)
- 3B) Bland Altman plot (4)
- 4) When do we use non parametric tests? Explain Mann Whitney U test. (8)
- 5) Illustrate the procedure of selecting a sample using multistage sampling. Enumerate its uses and limitations. (6)
- 6) Enumerate the contents of a research protocol. (5)
- 7) With the help of examples explain prevalence studies and ecological study designs. (10)
- 8) Describe methods to deal with confounder at analysis stage of an epidemiological study. (6)

9) **A certain drug was found to be effective in the treatment of pulmonary disease in 160 of 200 cases treated.**

- 9A) What is the standard error of proportion? (1)
- 9B) Construct a 95% confidence interval for the population prevalence. (3)
- 9C) Determine the margin of error for the above estimate. (1)

10) List the factors that affect sample size required for a study. (4)

11) A study has been planned to compare mean body mass index between diabetes and non-diabetes subjects. A minimum difference of 2 kg/m² is considered as clinically significant. What is the minimum number of subjects required in each group at 5% level of significance and 80% power if the pooled standard deviation is found to be 7 kg/m²? ($Z_{\alpha} = 1.96$, $Z_{\beta} = 0.84$) (4)

12) Interpret the slope and intercept, given the regression equation is $Y = 5 - 20X$. What do the terms 'simple' and 'linear' refer to in simple linear regression? Define coefficient of determination. (2+2+2 = 6 marks) (6)

13) **It was observed that the incubation period in days of patients with infectious hepatitis follows normal distribution with a mean of 19 days and standard deviation of 5 days. What percentage of the patients have incubation period**

- 13A) Below 4 days (2)
- 13B) Between 24 and 34 days (2)
- 13C) In the reference range (2)

14) Can we conclude that self confidence level of chronically ill children are, on the average different from that of healthy children? A test designed to measure self-confidence was administered to 35 chronically ill and 35 healthy children. [$\alpha = 0.05$, $Z_{1-\alpha/2} = 1.96$]. The mean scores and standard deviations were as follows: (8)

	Mean	Standard Deviation
Ill group	22.5	4.1
Healthy group	26.9	3.2

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Question Paper

Exam Date & Time: 12-Dec-2018 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

**FIRST SEMESTER MASTER OF SCIENCE (SPEECH - LANGUAGE PATHOLOGY) DEGREE EXAMINATION -
DECEMBER 2018**

**SUBJECT: SLP 102 - SPEECH SCIENCE AND SPEECH PRODUCTION
(2018 SCHEME)**

Wednesday, December 12, 2018 (10.00 - 13.00)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the mechanics of airflow. With appropriate illustrations explain the glottal activity (20) for various speech sounds and conversational and loud speech.
- 2) Update on infant cry analysis in various disorders. List the commonly used methods and parameters in infant cry analysis. (10+10 = 20 marks) (20)
- 3A) Explain perturbation theory with its merits and demerits. (10)
- 3B) Describe the Concatenative method of speech synthesis. Highlight on advantages and disadvantages. (10)
- 3C) Explain chest wall dynamics during speech production. (10)
- 3D) Describe the spectrographic measures of fricatives and nasals. (10)
- 4A) Videokymography. (5)
- 4B) Frequency domain analysis of speech. (5)
- 4C) Muscles active in speech breathing. (5)
- 4D) Articulatory synthesis. (5)

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Question Paper

Exam Date & Time: 14-Dec-2018 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

**FIRST SEMESTER MASTER OF SCIENCE (SPEECH - LANGUAGE PATHOLOGY) DEGREE EXAMINATION -
DECEMBER 2018**

**SUBJECT: SLP 103 - AUGMENTATIVE AND ALTERNATIVE COMMUNICATION
(2018 SCHEME)**

Friday, December 14, 2018 (10.00 - 13.00)

Marks: 100

Duration: 180 mins.

Answer all the questions.

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| 1) | Describe aided AAC systems with examples. | (20) |
| 2) | Describe the Participation model for the assessment of AAC. | (20) |
| 3A) | Describe three specific issues in delivering AAC services to individuals with Intellectual disability. | (10) |
| 3B) | Explain the current status of AAC management in India. | (10) |
| 3C) | Describe the phases of Picture Exchange Communication System. | (10) |
| 3D) | Describe the method of vocabulary selection for AAC. | (10) |

4. Write Short Notes:

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| 4A) | Low Tech AAC devices | (5) |
| 4B) | Culture and AAC | (5) |
| 4C) | Scope of research in AAC | (5) |
| 4D) | Team approach in AAC management | (5) |

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