# MUTHAYAMMAL ENGINEERING COLLEGE

**(An Autonomous Institution)**

(Approved by AICTE, New Delhi, Accredited by NBA & NAAC
& Affiliated to Anna University)

Rasipuram - 637 408, Namakkal Dist

| MKC | **DEPARTMENT OF MANAGEMENT STUDIES** | 2019-20 |
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**I Year/ II Semester**

| Subject | | Research Methods ( I- MBA EVEN Sem ) | | |
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| **S.No** | **Term** | **Notation ( Symbol)** | **Concept/Definition/Meaning/Units/Equation/Expression** | **Units** |
| 1 | Research | | The systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions**.** | |
| 2 | Research problem | | A research problem is a statement about meaningful understanding and deliberate investigation. | |
| 3 | Abstract | | A brief summary of a research project and its findings. A summary of a study that describes its most important aspects, including major results and conclusions. | |
| 4 | Alternative Hypothesis | | The experimental hypothesis stating that there is some real difference between two or more groups. | |
| 5 | Anonymity | | a research condition in which no one, including the researcher, knows the identities of research participants | |
| 6 | Bias | | A loss of balance and accuracy in the use of research methods. | |
| 7 | Qualitative Research: | | Trying to verify or generate descriptive theory that is grounded in the data gleaned from the investigation (naturalistic) | |
| 8 | Pure: | | Abstract and general, concerned with generating new theory and gaining new knowledge for the knowledge's sake. | |
| 9 | Research variable: | | Any attribute or characteristic that can vary, such as diagnosis, age, heart rate, elbow flexion and self esteem. | |
| 10 | Appetency | | Clear, understandable representation of the data | |
| 11 | Bar graph | | A graphic way of illustrating differences among groups | |
| 12 | Aptitude test | | An instrument used to predict performance in a future situation | |
| 13 | Association | | A relationship between objects or variables | |
| 14 | Cluster Analysis | | Cluster analysis is a multivariate method used to classify a sample of subjects in such a way that subjects in the same group are more similar to each other than to those in other groups | |

| 15 | Associational research | | A general type of research in which a researcher looks for relationships having predictive and/or explanatory power | |
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| 16 | Experimental: | | Manipulating one variable to see its effects on another variable, while controlling for as many other variables as possible and randomly assigned subjects to groups. | |
| 17 | Random selection: | | Every subject in the population concerned has an equal chance of being selected for the study sample. | |
| 18 | Case Study | | An intensive investigation of the current and past behaviors and experiences of a single person, family, group, or organization | |
| 19 | Categorical Data | | Categorical Data Variables with discrete, non-numeric or qualitative categories | |
| 20 | Limitations | | Identify potential weaknesses of the study. | |
| 21 | Research Methodology | | The method of research design (paradigm as well as statistics and analysis) as well as the approximate timeline for completion of the study | |
| 22 | Nonparametric Data: | | Nominal and ordinal data. | |
| 23 | Parametric Data: | | Interval data and ratio data. | |
| 24 | Pilot study: | | A preliminary trial of the study, or a mini study, and should be performed before the final study. | |
| 25 | Purpose of the study: | | Specific research aims and objectives for the research. | |
| 26 | Random assignment: | | Those subjects in the selected sample each have an equal chance of being assigned to either the experimental group or the control group. | |
| 27 | Quantitative Research | | Answer a specific research question by showing statistical evidence that the data may be addressed in a particular way (experimental) | |
| 28 | Applied: | | Designed to answer a practical question, to help people do their jobs better. | |
| 29 | Descriptive: | | Describing a group, a situation, or an individual to gain knowledge which may be applied to further groups or situations, as in case studies or trend analyses. | |
| 30 | Clinical: | | Performed in the "real world" where control over variables is quite difficult. | |
| 31 | Laboratory: | | Performed in "unreal" or laboratory surroundings that are tightly controlled. | |
| 32 | Dependent variable: | | Item observed and measured at the beginning and end of the study. | |
| 33 | Independent variable: | | Sometimes called the experimental or treatment variable | |
| 34 | Control: | | Refers to the experimenter's ability to control or eliminate interfering and irrelevant influences. | |
| 35 | Codebook | | Information on the structure, content, and layout of a data set | |

| 36 | Population: | | The entire group of people or items that meet the criteria set by the researcher. | |
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| 37 | Subpopulation: | | A researcher-defined subgroup of the population. | |
| 38 | Sample: | | selected from the population or the subpopulation | |
| 39 | Convenience samples: | | Those participants that can be studied most easily, cheaply, or quickly. | |
| 40 | Risk: | | Refers to a possibility that harm may occur. | |
| 41 | census | | The collection of data from all members, instead of a sample, of the target population. | |
| 42 | Central Tendency | | A measure that describes the "typical" or average characteristic; the three main measures of central tendency are mean, median and mode. | |
| 43 | Chi Square | | A statistic used when testing for associations between categorical, or non-numeric, variables. | |
| 44 | Data | | Information collected through surveys, interviews, or observations. | |
| 45 | Cluster Sampling | | A type of sampling method where the population is divided into groups, called clusters. Cluster designs are often used to control costs. | |
| 46 | Dichotomous Variables | | Variables that have only two categories, such as whether a child is enrolled in a preschool program or not. | |
| 47 | Codes | | Values, typically numeric, that are assigned to different levels of variables to facilitate analysis of the variable. | |
| 48 | Coding | | The process of assigning values, typically numeric values, to the different levels of a variable. | |
| 49 | Coefficient of Determination | | A coefficient, ranging between 0 and 1, that indicates the goodness of fit of a regression model. | |
| 50 | Cognitive Interviewing | | A research method used to pretest interview questions or items on a questionnaire | |
| 51 | Cohort | | A group of people sharing a common demographic experience who are observed through time | |
| 52 | Discrete Variables | | A variable that can assume only a finite number of values; it consists of separate, indivisible categories | |
| 53 | Comparability | | The quality of two or more objects that can be evaluated for their similarity and differences. | |
| 54 | Conditional Probability Model | | Conditional probability models are a class of statistical models that are used to study the probability of an outcome given some prior event(s) or characteristic(s). | |
| 55 | Confidence Interval | | A range of estimated values that is the best guess as to the true population's value. | |
| 56 | Exploratory Study | | An exploratory study is conducted to begin to understand a research problem or question when | |

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| | | | there are few or no earlier studies and/or limited theory to refer to or rely upon to answer the question | |
| 57 | confidence Level | | The percentage of times that a confidence interval will include the true population value | |
| 58 | Confidentiality | | The protection of research subjects from being identified. | |
| 59 | Confirmatory Factor Analysis | | Confirmatory factor analysis (CFA) is a special form of factor analysis that is used to test whether the data fit a hypothesized measurement model. | |
| 60 | Consistency | | Answers to a set of questions are consistent if they do not contain any logical contradictions. | |
| 61 | Constant | | A value that stays the same for all the units of an analysis.. | |
| 62 | Construct | | A construct or a concept is a theoretical creation that cannot be directly observed, but can be measured using one or more indicators or tests | |
| 63 | Construct Validity | | The degree to which a variable, test, questionnaire or instrument measures the theoretical concept that the researcher hopes to measure. | |
| 64 | Content Analysis | | A procedure for organizing narrative, qualitative data into themes and concepts. | |
| 65 | Degrees of Freedom | | The number of independent units of information in a sample used in the estimation of a parameter or calculation of a statistic. | |
| 66 | Content Validity | | Content validity, like face validity, refers to whether a given test or other measurement tool actually measures the construct that it claims to measure. | |
| 67 | Context Effects | | The change in the dependent variable which is resulted from the influence of the research environment | |
| 68 | Continuous Variable | | A variable that, in theory, can take on any value within a range. | |
| 69 | Control Group | | In an experiment, the control group does not receive the intervention or treatment under investigation | |
| 70 | Experimental Control | | Processes used to hold the conditions uniform or constant under which an investigation is carried out. | |
| 71 | Control Variable | | A variable that is not of interest to the researcher, but which interferes with the statistical analysis. | |
| 72 | Convenience Sampling | | A sampling strategy that uses the most easily accessible people (or objects) to participate in a study. | |
| 73 | Cooperation Rate | | In survey research, this is the percentage of persons who answer a survey or complete an interview out of all persons who were contacted and asked to complete the survey or interview. | |

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| 74 | Correlation | | The degree to which two variables are associated. Variables are positively correlated if they both tend to increase at the same time. | |
| 75 | Correlation Coefficient | | A measure of the degree to which two variables are related | |
| 76 | Covariate Balance | | In randomized experiments, randomization creates covariate balance between the treatment groups | |
| 77 | Critical Incident Technique | | A qualitative research method that collects observations or participant reports of behaviors that have critical significance | |
| 78 | Cross-Sectional Data | | Coverage reflects the extent to which all elements on a sampling frame (list) are members of the population to be sampled, and the extent to which every element in that population appears on the frame (list) once and only once. | |
| 79 | Cross-Tabulation | | A method to display the relationship between two categorical variables | |
| 80 | Curvilinear | | A statistical relationship between two variables that is not linear when plotted on a graph, but rather forms a curve. | |
| 81 | Descriptive Statistics | | Basic statistics used to describe and summarize data. | |
| 82 | Data Analysis | | The process by which data are organized to better understand patterns of behavior within the target population. | |
| 83 | Field Research | | Research conducted where research subjects live or where the activities of interest take place. | |
| 84 | Data Collection | | The observation, measurement, and recording of information in a research study. | |
| 85 | Data Imputation | | A method used to fill in missing values in surveys. | |
| 86 | Data Reduction | | Data reduction is the process of transforming numerical or alphabetical digital information into a corrected, ordered, and simplified form. | |
| 87 | Deduction | | The process of reasoning from the more general to the more specific. | |
| 88 | Deductive Method | | A method of study that begins with a theory and the generation of a hypothesis that can be tested through the collection of data, and ultimately lead to the confirmation (or lack thereof) of the original theory. | |
| 89 | Differential Attrition | | Differential or selective attrition occurs when the rates of dropping out or leaving a study with several data collection waves vary across different study groups. | |
| 90 | Delphi Survey Method | | The Delphi survey method is used when a researcher is interested in collecting opinions from a group of experts but wishes to limit the undue influence of participants upon one another | |

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| 91 | Dependent Variable | | The outcome variable. | |
| 92 | Estimation | | The process by which data from a sample are used to indicate the value of an unknown quantity in a population. | |
| 93 | Factor Analysis | | A form of multivariate analysis that includes a large number of variables or objects and aims to identify a smaller number of factors that are more understandable. | |
| 94 | Focus Group | | An interview conducted with a small group of people, all at one time, to explore ideas on a particular topic | |
| 95 | Direct Effect | | The effect of one variable on another variable, without any intervening variables | |
| 96 | Direct Observation | | A method of gathering data primarily through close visual inspection of a natural setting. | |
| 97 | Discriminate Analysis | | A grouping method that identifies characteristics that distinguish between groups | |
| 98 | Dispersion | | In statistics, dispersion refers to the spread of a variable's values. | |
| 99 | Double Barreled Question | | A survey question whereby two separate ideas are erroneously presented together in one question. | |
| 100 | Double Blind Experiment | | A research design where both the experimenter and the subjects are unaware of which is the treatment group and which is the control. | |
| 101 | Dummy Coding | | A coding strategy where a categorical variable is turned into a series of dichotomous variables each of which have a value of 0 or 1. | |
| 102 | Dummy Variables | | Categorical variables that are assigned a value of 0 or 1 for use in a statistical analyses . | |
| 103 | Duration Models | | A group of statistical models used to measure the length of a status or process. | |
| 104 | Ecological Fallacy | | False conclusions made by assuming that one can infer something about an individual from data collected about groups. | |
| 105 | Error | | The difference between the actual observed data value and the predicted or estimated data value. | |
| 106 | Forecasting | | The prediction of the size of a future quantity | |
| 107 | Field Notes | | A text document that detail behaviors, conversations, or setting characteristics as recorded by a qualitative researcher. | |
| 108 | Experimental Group | | In experimental research, the group of subjects who receive the experimental treatment or intervention under investigation. | |
| 109 | Explanatory Analysis | | A method of inquiry that focuses on the formulating and testing of hypotheses. | |
| 110 | Multivariate | | A multivariate statistical method used to uncover the underlying structure (factors) of a set of variables. | |

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| 111 | External Validity | | The degree to which the results of a study can be generalized beyond the study sample to a larger population. | |
| 112 | Extraneous Variable | | A variable that interferes with the relationship between the independent and dependent variables and which therefore needs to be controlled for in some way. | |
| 113 | Extrapolation | | Predicting the value of unknown data points by projecting beyond the range of known data points. | |
| 114 | Face Validity | | The extent to which a survey or a test appears to actually measure what the researcher claims it measures | |
| 115 | Field Experiments | | An experimental study that is not conducted in a laboratory, but instead in real-life settings such as early childhood classrooms and schools | |
| 116 | Independence | | The lack of a relationship between two or more variables. | |
| 117 | GIS | | GIS (Geographical Information Systems) A computer system that enables one to assemble, store, manipulate, and display geographically referenced information. | |
| 118 | Hypothesis | | A statement that predicts the relationship between the independent (causal) and dependent (outcome) variables. | |
| 119 | In-depth Interviewing | | A research method in which face-to-face interviews with respondents are conducted using open-ended questions to explore topics in great depth | |
| 120 | Generalizability | | The extent to which conclusions from analysis of data from a sample can be applied to the population as a whole. | |
| 121 | Index Variable | | A variable that is a summed composite of other variables that are assumed to reflect the same underlying construct. | |
| 122 | Least Squares | | A commonly used method for calculating a regression equation | |
| 123 | Informal Interview | | An informal or conversational interview is a type of qualitative interview where the researcher begins by engaging an individual in a conversation. | |
| 124 | Likert Scale | | A Likert Scale is a type of rating scale used to measure attitudes, values, or opinions about a subject. | |
| 125 | Literature Review | | A comprehensive survey of the research literature on a topic. | |

**GENERAL QUESTIONS**

| No. | Term | | Definition | |
|-----|------|---|-----------|---|
| 1. | Interval Scale | | A scale of measurement where the distance between any two adjacent units of measurement is the same but the zero point is arbitrary | |
| 2. | Interval Variable | | A variable wherein the distance between units is the same but the zero point is arbitrary. | |
| 3. | Questionnaire | | Structured sets of questions on specified subjects that are used to gather information, attitudes, or opinions. | |
| 4. | Reliability | | the degree to which a measure yields consistent results | |
| 5. | Rigor | | Degree to which research methods are scrupulously and meticulously carried out in order to recognize important influences occurring in an experimental study | |
| 6. | Sample | | The population researched in a particular study. | |
| 7. | Sampling Error | | The degree to which the results from the sample deviate from those that would be obtained from the entire population, because of random error in the selection of respondent and the corresponding reduction in reliability. | |
| 8. | Semantics | | The relationship between symbols and meaning in a linguistic system. Also, the cuing system that connects what is written in the text to what is stored in the reader's prior knowledge. | |
| 9. | Testing | | The act of gathering and processing information about individuals' ability, skill, understanding, or knowledge under controlled conditions. | |
| 10. | Treatment | | The stimulus given to a dependent variable. | |
| 11. | Unit of Analysis | | The basic observable entity or phenomenon being analyzed by a study and for which data are collected in the form of variables. | |
| 12. | Validity | | The degree to which a study accurately reflects or assesses the specific concept that the researcher is attempting to measure. | |
| 13. | Variable | | any characteristic or trait that can vary from one person to another or for one person over time | |
| 14. | Weighted Scores | | scores in which the components are modified by different multipliers to reflect their relative importance. | |
| 15. | Falsification | | To change information or evidence to mislead | |
| 16. | Field Research | | Research conducted where research subjects live or where the activities of interest take place. | |
| 17. | Findings | | Results (of a study). | |
| 18. | Flowchart | | Types of tally sheets used to indicate the frequency and direction of a participant's remarks. | |
| 19. | Focus Group | | An interview conducted with a small group of people to explore their ideas on a particular topic. | |
| 20. | Gain scores | | The difference between the pretest and posttest scores of a measure. | |

| 21. | Heterogeneity | | The degree of dissimilarity among cases with respect to a particular characteristic | |
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| 22. | Hypertext | | A non-sequential text composed of links and nodes | |
| 23. | Key informants | | Individuals identified as expert sources of information, especially in qualitative research | |
| 24. | Latent content | | The underlying meaning of a communication. | |
| 25. | Literature review | | The systematic identification, location, and analysis of documents containing information related to a research problem. | |

| Faculty Team Prepared | **N.Ramya** | Signature: |
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**HoD**