Seat
No.

M.Phil./Ph.D. Entrance Examination, July - 2022
COMPUTER APPLICATION

Day and Date : Saturday, 16 - 07 - 2022   **Total Marks : 100**
Time : 11.00 a.m. to 1.00 p.m.

Instructions :
1) All questions are compulsory.
2) Each question carries 2 marks.
3) Answers should be marked in the given OMR answer sheet by darkening the appropriate option.
4) Use black ball point pen only for marking the circle. Do not make any stray mark on the OMR Answer Sheet.
5) Follow the instructions given on OMR Sheet.
6) Rough work shall be done on the sheet provided at the end of question paper.
7) Only non-programmable calculators are allowed.

SECTION-I
(Research Methodology)

1) The Scope for employing ICT support is relatively more in which of the following stages of research?
   a) Problem Formulation
   b) Hypothesis Formulation
   c) Data Collection
   d) Data Analysis

   A) (a) & (b) Only   B) (b) & (d) Only
   C) (c) & (d) Only   D) (a) and (c) Only

2) A deductive theory is one that:
   A) Allows theory to emerge out of the data
   B) Involves testing an explicitly defined hypothesis
   C) Allows for findings to feed back into the stock of knowledge
   D) Uses qualitative methods whenever possible

P.T.O.

3) Why is data analysis concerned with data reduction?
   A) Because far too much data is collected than is required
   B) Because we need to make sense of the data
   C) Because of the repetitions in answers to questionnaires
   D) Because the sample size has been exceeded

4) What is the name of the role adopted by an ethnographer who joins in with the group's activities but admits to being a researcher?
   A) Complete participant
   B) Participant-as-observer
   C) Observer-as-participant
   D) Complete observer

5) What is a "probing question"?
   A) One that inquires about a sensitive or deeply personal issue
   B) One that encourages the interviewee to say more about a topic
   C) One that asks indirectly about people's opinions
   D) One that moves the conversation on to another topic

6) Which of the following is a problem associated with survey research?
   A) The problem of objectivity
   B) The problem of "going native"
   C) The problem of omission
   D) The problem of robustness

7) If a study is "reliable", this means that:
   A) It was conducted by a reputable researcher who can be trusted
   B) The findings can be generalized to other social settings
   C) The methods are stated clearly enough for the research to be replicated
   D) The measures devised for concepts are stable on different occasions

8) An important practical issue to consider when designing a research project is:
   A) Which theoretical perspective you find most interesting
   B) Whether or not you have time to retile the bathroom first
   C) How much time and money you have to conduct the research
   D) Which colour of ring binder to present your work in

9) A systematic literature review is:

A) One which starts in your own library, then goes to on-line databases and, finally, to the internet

B) One which gives equal attention to the principal contributors to the area

C) A responsible, professional process of time-management for research

D) A replicable, scientific and transparent process

10) A research intends to explore the result of possible factors for the organization of effective mid-day meal interventions. Which research method will be most appropriate for this study?

A) Descriptive survey method

B) Historical method

C) Ex-post facto method

D) Experimental method

11) In order to pursue the research, which of the following is priorly required?

A) Developing a research design

B) Formulating a research question

C) Deciding about the data analysis procedure

D) Formulating a research hypothesis

12) Research and Development become the index of development of the country. Which of the following reasons are true with regards to this statement?

A) R&D targets human development

B) R&D can enhance people's standard of living in the country

C) R&D reflects the actual economic and social conditions being prevailed in the country

D) All the above

13) Which of the following does not correspond to characteristics of research?

A) Research is not passive

B) Research is systematic

C) Research is not a problem-oriented

D) Research is not a process

14) The main aim of the scientific method in the research field is to_____.

A) Improve data interpretation   B) Confirm triangulation

C) Introduce new variables   D) Eliminate spurious relations

15) The conclusions/findings of which type of research cannot be generalized to other situations?

A) Causal Comparative Research   B) Historical Research

C) Descriptive Research   D) Experimental Research

16) Who can successfully conduct Research?

A) Someone who is a hard worker

B) Possesses post-graduation degree

C) Has studied research methodology

D) Possesses thinking and reasoning ability

17) Authenticity of a research finding is its_____.

A) Validity   B) Objectivity

C) Originality   D) All of the above

18) Which one is called non-probability sampling?

A) Quota sampling   B) Cluster sampling

C) Systematic sampling   D) Stratified random sampling

19) Which one among the following statements is correct in context to research?

    a)   Research refers to a series of systematic activity or activities undertaken to find out the solution to a problem.

    b)   It is a systematic, logical and unbiased process wherein verification of hypotheses, data analysis, interpretation and formation of principles can be done.

    c)   It is an intellectual inquiry or quest towards truth,

    d)   It enhances knowledge.

Select the correct answer from the given below:

A)   (a), (b), (c) and (d)   B)   (a), (b) and (c)

C)   (b), (c) and (d)   D)   (a), (c) and (d)

20) On what basis can one formulate the assumptions?

A)   The cultural background of the country

B)   Universities

C)   Some specific characteristics of castes

D)   All of the above

21) Which one among the following phrases does not correspond to the meaning of research as a process?

A)   Problem Solving   B)   Trial and Error

C)   Objective Observation   D)   Systematic Activity

22) Which one among the following falls under the category of research development?

A)   Descriptive Research   B)   Philosophical Research

C)   Action Research   D)   All of the above

23) _____scales are developed on ad- hoc basis and are designed largely through the researchers own subjective selection of items.

A)   Differrential   B)   Arbitrary

C)   Summeted   D)   Cumulative

24) Research is classified on the basis of _____ and methods.
   A) Purpose   B) Intent
   C) Methodology   D) Techniques

25) Mean, Median and Mode are:
   A) Measures of deviation   B) Ways of sampling
   C) Measures of control tendency   D) None of the above

SECTION-II
(Computer Application)

26) Dirty bit is used to show the_____.
   A) Page with corrupted data
   B) The wrong page in the memory
   C) Page that is modified after being loaded into cache memory
   D) Page that is less frequently accessed.

27) Error detection at data link level is achieved by the following
   A) Equalization   B) Bit stuffing
   C) Hamming code   D) Cyclic redundancy codes

28) The following are the standard synchronous communication protocol except?
   A) SLIP   B) SDLC
   C) PAS   D) SMTP

29) If the server is only responsible for data management and software on the client implements the application logic, then one can referrer this model as_____.
   A) Client server model   B) Fat client server model
   C) Thin client server model   D) None of these

30) Computer Aided Software Engineering (CASE) is_____.
   A) Extent to which all the parts of a software system or component are present and each of its parts is fully specified and developed.
   B) Testing of individual hardware/software components
   C) An Entity-relation (E-R) diagram show how entities in the system are composed of other entities
   D) It consists of wide range of different types of computer programs, which be used to support software process activities such as a requirement analysis, system modeling, debugging and testing.

31) Taxonomy is_____.
   A) Classification scheme, which shows who object class is related to other class through common attributes and services
   B) Standard modeling language, used for object oriented modeling
   C) Set of tools to support software process
   D) None of these

32) ERP begins with_____.
   A) Feasibility study
   B) BPR
   C) Package selection
   D) Training

33) A binary search tree is constructed by inserting following numbers in order 65, 24, 73, 15, 30, 68, 101, 14, 18, 47, 70, 34. The total number of nodes in right sub tree are:_____.
   A) 4
   B) 7
   C) 5
   D) 6

34) The time complexity of the binary search algorithm is
   A) O(log2n)
   B) O(2 log n)
   C) O(n log n)
   D) O(log n)

35) Cost of maintenance is_____.
   A) Process of estimating the costs associated with software development projects that include the effort, time, and labor required.
   B) Overall cost of maintaining a computer system that includes the costs associated with personnel/training/ maintenance of hardware and software/ requirements growth.
   C) Overall cost of operating a computer system that includes the costs associated with personnel / training / system operations.
   D) Overall cost of a computer system to an organization that includes the costs associated with operating/maintaining the system, and the lifetime of operational use of the system.

36) The cost of the network is usually determined by:

A) Time complexity

B) Switching complexity

C) Circuit complexity

D) None of these

37) Three essential components of a software project plan are:

A) Team structure, Quality assurance plans, Cost estimation

B) Cost estimation, Time estimation, Quality assurance plan

C) Cost estimation, Time estimation, Personnel estimation

D) Cost estimation, Personnel estimation, Team structure

38) The Function Point (FP) metric is:

A) Calculated from user requirements

B) Calculated from Lines of code

C) Calculated from software's complexity assessment

D) None of the above

39) A black hole in a DFD is a:

A) A data store with no inbound flows

B) A data store with only in bound flows

C) A data store with more than one in bound flow

D) None of these.

40) The main activity of the design phase of the system life cycle is to

A) propose alternatives to the current system

B) understand the current system

C) develop and test the new system

D) replace the old system with the new one

41) Cluster is_____.

A) Group of similar objects that differ significantly from other objects

B) Operations on a database to transform or simplify data in order to prepare it for a machine-learning algorithm

C) Symbolic representation of facts or ideas from which information can potentially be extracted

D) None of these

42) Predictive modelling in data mining uses _____technique.

A) Statistical

B) Association Discovery

C) Value prediction

D) None of these

43) With reference to implementation of different association mining algorithms, identify the correct statement:

A) The FP growth method was usually better than the best implementation of the apriori algorithm

B) Apriori algorithm is usually better than CHARM

C) Apriori algorithm is good when the support required is low

D) At very low support the number of frequent items becomes less

44) Which of the following statements is not correct?

   A) HTML is not screen precise formatting language.

   B) HTML does not specify a logic.

   C) DHTML is used for developing highly interactive web pages.

   D) HTML is a programming language.

45) How can you make an e-mail link?

   A) <mail href +"xxx@y.com">

   B) <a href ="mail to: xxx@y.com">.

   C) <a href="xxx@y.com">.

   D) Both (B) and (C)

46) The web standard allows programmers on many different computer platforms to dispersed format and display the information server. These programs are called_____.

   A) Web Browsers

   B) HTML

   C) Internet Explorer

   D) None of these

47) Which function is used to perform some action when the object is to be destroyed?

   A) finalize()

   B) delete()

   C) main()

   D) None of the mentioned

48) Which of these keywords is not a part of exception handling?

A) try

B) finally

C) thrown

D) catch

49) Which of these class is used to create an object whose character sequence is mutable?

A) String()

B) StringBuffer()

C) Both of the mentioned

D) None of the mentioned

50) Which of the following is incorrect statement about packages?

A) Interfaces specifies what class must do but not how it does.

B) Interfaces are specified public if they are to be accessed by any code in the program.

C) All variables in interface are implicitly final and static.

D) All variables are static and methods are public if interface is defined public.

✿　✿　✿

Rough Work