M/P ENT – 104

Total No. of Pages : 12

Seat No.	

M.Phil./Ph.D. Entrance Examination, August - 2018
FOOD TECHNOLOGY ENGINEERING

Day and Date : Wednesday, 08 - 08 - 2018 **Total Marks : 100**
Time : 01.00 p.m. to 03.00 p.m.

Instructions :
1) **All questions are compulsory.**
2) **Each question carries 2 mark.**
3) **Answer 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.**

1) The method by which a sample is chosen

A) Unit

B) design

C) Random

D) None of the above

2) _____ which concerns with the question of how many items are to be observed and how the information and data gathered are to be analyzed

A) Statistical design

B) Observational design

C) Operational design

D) Sampling design

3) Research is classified on the basis of _____ and methods

A) Purpose

B) Intent

C) Methodology

D) None of the above

4) The variables are ones that have a strong continent effect on the relationship between the independent variable and dependent variable. They have potential to modify the direction and magnitude of the above stated association.

A) Moderating variables

B) Inverting variables

C) Extraneous variable

D) None of the above

5) _____ involve random selection

A) Probability sampling

B) Non-probability sampling

C) Purposive sampling

D) None of these

6) Research conducted to find solution for an immediate problem is _____

A) Fundamental Research

B) Analytical Research

C) Survey

D) Action Research

7) Research related to abstract ideas or concepts is

A) Empirical research

B) Conceptual Research

C) Quantitative research

D) Qualitative research

8) Parametric test, unlike the non-parametric tests, make certain assumptions about

A) The population size

B) The underlying distribution

C) The sample size

D) None of the above

9) Two types of errors associated with hypothesis testing are Type I and Type II. Type II error is committed when

A) We reject the null hypothesis whilst the alternative hypothesis is true

B) We reject a null hypothesis when it is true

C) We accept a null hypothesis when it is not true

D) None of the above

10) The null hypothesis of the sign test is that

A) Half the ranks to be less than the median and half greater than the median

B) Half the ranks to be less than the mean and half greater than the mean

C) The lower half the ranks to have the same mean as the upper half

D) The lower half the ranks to have the same standard deviation as the upper half

11) A research which follows case study method is called

A) Clinical or diagnostic

B) Causal

C) Analytical

D) Qualitative

12) Research conducted in class room atmosphere is called

A) Field study

B) Survey

C) Laboratory Research

D) Empirical Research

13) What is an effect size?

A) The magnitude of the relationship between variables

B) The likelihood of type 1 and type 2 errors

C) The number of expected cases

D) The variance explained by the measures

14) What does a significant result in a chi-square test imply?

A) That homogeneity of variance has not been established

B) That there is a significant difference between the three categorical variables included in the analysis

C) It implies that the sample is not representative of the population

D) All of these are possible

15) One or two tail test will determine

A) If the two extreme values (min or max) of the sample need to be rejected

B) If the hypothesis has one or possible two conclusions

C) If the region of rejection is located in one or two tails of the distribution

D) None of the above

16) Research through experiment and observation is called

A) Clinical Research

B) Experimental Research

C) Laboratory Research

D) Empirical Research

17) Research method is a part of _____

A) Problem

B) Experiment

C) Research Techniques

D) Research methodology

18) What are the two types of variance which can occur in your data?

A) Between or within groups

B) Repeated and extraneous

C) Experimenter and participant

D) Independent and confounding

19) You obtained a significant test statistic when comparing three treatments in a one-way ANOVA. In words, how would you interpret the alternative hypothesis HA?

A) All three treatments have different effects on the mean response.

B) Exactly two of the three treatments have the same effect on the mean response.

C) At least two treatments are different from each other in terms of their effect on the mean response.

D) All of the above.

20) Identifying causes of a problem and possible solution to a problem is

A) Field Study
B) Diagnosis tic study
C) Action study
D) Pilot study

21) ICSSR stands for

A) Indian Council for Survey and Research
B) Indian Council for strategic Research
C) Indian Council for Social Science Research
D) Inter National Council for Social Science Research

22) Converting a question into a Researchable problem is called _____

A) Solution
B) Examination
C) Problem formulation
D) Problem Solving

23) What is the function of a post-test in ANOVA?

A) Determine if any statistically significant group differences have occurred.
B) Describe those groups that have reliable differences between group means.
C) Set the critical value for the F test (or chi-square).
D) None of the above

24) Which ONE of these techniques is most likely to be used in quantitative analysis?

A) Multivariate analysis.
B) Sound-tape recordings.
C) Transcripts.
D) Videos.

25) In Testing the statistical hypothesis, which of the following statement is false

A) The critical region is the values of the test statistic for which we reject null hypothesis.

B) The level of significance is the probability of type I error

C) The p-value measures the probability that the null hypothesis is true

D) None of the above

26) When hot and cold fluids flow in same direction in heat exchanger then flow is called

A) Parallel

B) Co-Current

C) Counter current

D) Both (A) and (B)

27) Most common application of extended surface heat exchange in food industry is in

A) Concentrating juice

B) Refrigeration

C) Spray drying

D) All

28) Which of the following is necessary in specifying the size of pair of crushing rolls

A) Speed of the rolls

B) Weight of rolls

C) Angle of nip

D) Critical angle

29) Choose the option with two reducing sugar

A) Trehalose and Sucrose

B) Lactose and Sucrose

C) Lactose and Maltose

D) None of these

30) Fishiness in butter is caused by

A) Aeromonas hydrophila
B) Pseudomonas synxantha
C) Pseudomonas syncyanea
D) None of these

31) Thermostabilization of egg by dipping in hot water is to

A) give glossiness to surface
B) sterilize the egg
C) reduce rate of evaporation
D) increase the permeability of shell

32) Thiobarbituric acid test for detection of

A) presence of pesticides in beverages
B) vitamin C in food sample
C) rancidity in oil and fat
D) alpha amylase activity in a dough

33) Acetyl value of a fat gives the amount of

A) double bond present in fatty acid
B) degree of rancidity in oil
C) amount of hydroxy fatty acids present in a fat
D) single bond present in fatty acid

34) Which of the following is without coenzyme activity

A) Vitamin E
B) Thiamine
C) Biotin
D) Riboflavin

35) lactose increases the retention of

A) calcium
B) phosphorus
C) iron
D) iodine

36) In ion-exchange chromatography , the cation exchanger contains

A) negative charge
B) positive charge
C) no charge
D) both positive and negative charge

37) Nitrogen trichloride reacts with methionine to form

A) methionine cyanide
B) methionine trichloride
C) methionine sulphoxinine
D) methionine sulphate

38) Gasohol is a mixture of

A) 90% gasoline and 10% ethanol
B) 80% gasoline and 20 % ethanol
C) 95% gasoline and 5% ethanol
D) none of the above

39) Cheese is classified on the basis of

A) The fat content
B) The moisture content
C) The protein content
D) Both (A) and (B)

40) Veal is obtained

A) sheep
B) buffalo
C) goat
D) calf

41) Fruit juice is flowing in a circular pipe (inner diameter 2 cm) at a mass flow rate of 2 kg s-1 and at an temperature of 25°C. The density and viscosity of the juice at 25°C are 1045 kg m-3 and 0.5 Pa s, respectively. Take π = 22/7. The Reynolds number for this flow will be _____.

A) 240 B) 250

C) 275 D) 255

42) In a tray dryer, 100 kg of a vegetable material in a suitably reduced form is dried to yield a final product of 75 kg. The dried sample of 5 g, when kept in an oven at 105°C for 24 hours results in 3.56 g of dry matter. The moisture content of the vegetable, before drying, in dry basis is _____ %.

A) 40 B) 67

C) 87 D) 97

43) Water always boils when its

A) Temperature reaches 100° C

B) Saturated vapour pressure is less than the atmospheric pressure

C) Vapour pressure equals 76 cm of Hg

D) Saturated vapour pressure equals the external pressure on its surface

44) Bernoulli's equation is valid for the following type of flow:

A) Compressible, steady, inviscid B) Incompressible, steady, viscous

C) Compressible, unsteady, viscous D) Incompressible, steady, inviscid

45) How much skim milk (in kg) containing 0.1% fat should be added to 500 kg of cream containing 50% fat to produce standardized cream containing 36% fat?.

A) 140 B) 165

C) 195 D) 210

46) In which category of refrigerants, the nitrogen and oxygen compounds are placed

A) 100 B) 300

C) 600 D) 700

47) Toothpaste is

A) binghham plastic B) pseudo plastic

C) newtonian fluid D) dilatant

48) Locomotive boilers are the example of

A) fire- tube boiler B) water tube boiler

C) auxiliary boilers D) vertical boilers

49) The thermal conductivity is minimum for

A) silver B) chrome-nickel steel

C) aluminium D) carbon steel

50) Multiple effect evaporation accounts for

A) Lower operating costs

B) Steam economy

C) None of these

D) Investment economy

Rough Work