HALL TICKET NO:

Ph.D. in Management Studies

Entrance Examination - 2020

(70 Marks)

1. Write your Hall Ticket Number in the OMR Answer sheet given to you. Also write the Hall Ticket Number in the space provided above.

2. The question paper booklet consists of Part A and B which carries 70 questions. Each question carries one (1) mark. There is negative marking for Part A only. Each wrong answer carries negative 0.33 marks (— 0.33).

3. Answers are to be marked on the OMR answer sheet following the instructions provided there upon.

4. Hand over OMR answer sheet to the invigilator before leaving the examination hall.

5. No additional sheets will he provided. Rough work can be done in the question paper itself or in the space provided at the end of the booklet.

6. Calculators, mobile phones and electronic gadgets are not allowed.

PART-A

1. A (n) _____ study involves manipulation of one or more variables to determine the effect on another variable.
(A) Ex post facto
(B) Exploratory
(C) Experimental
(D) Causal

2. "The introduction of a four day week leads to increased productivity particularly among young workers by improving job satisfaction." In this statement, improving job satisfaction is the:
(A) Independent Variable
(B) Dependent Variable
(C) Intervening Variable
(D) Moderating Variable

3. Which type of nonprobability sampling technique is most useful when individuals with the desired characteristics, experiences, or attitudes are difficult to identify or reach?
(A) Random sampling
(B) Purposive sampling
(C) Convenience sampling
(D) Snowball sampling

4. Which of the following research purposes are associated with qualitative research?
(A) Description
(B) Prediction
(C) Theory building
(D) Theory testing

5. Which type of research is designed to address complex, practical problems using brainstorming, followed by sequential trial-and-error attempts until the desired results are achieved?
(A) Case history
(B) Action research
(C) Causal research
(D) Grounded theory

Directions for question no 6-10: The trajectory of energy production in China are given. Answer the questions based on the table (Production in peta Joules).

Year	Coal & Lignite	Crude Petroleum	Natural Gas	Electricity (Hydro & Nuclear)	Total
2006-07	7459	1423	1223	4763	14,868
2007-08	7926	1429	1248	4944	15,547
2008-09	8476	1403	1265	5133	16,277
2009-10	9137	1411	1830	4511	16,889
2010-11	9207	1579	2012	5059	17,857

6. In which year primary sources recorded the lowest growth in total production of energy?
(A) 2007-08
(B) 2008-09
(C) 2009-10
(D) 2010-11

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7. Which source of energy has shown the highest growth rate in production during 2006-07 to 2010-11?
(A) Coal & lignite
(B) Crude petroleum
(C) Hydro & nuclear electricity
(D) Total production of energy

8. Which one of the following primary sources of energy has recorded the highest growth in production in 2008-09?
(A) Coal & lignite
(B) Crude petroleum
(C) Natural gas
(D) Hydro & nuclear electricity

9. In which year, production of hydro and nuclear electricity was almost double the production of crude petroleum and natural gas taken together?
(A) 2006-07
(B) 2007-08
(C) 2008-09
(D) 2009-10

10. In which year Electricity (Hydro & Nuclear) production is the highest?
(A) 2006-07
(B) 2007-08
(C) 2008-09
(D) 2009-10

11. Which of the following p-values will lead us to reject the null hypothesis if the significance level of the test if 5%?
(A) 0.15
(B) 0.10
(C) 0.06
(D) 0.025

12. The SERVQUAL scale seeks to describe perceptions of service quality with five dimensions. This scale is _____.
(A) Unidimensional
(B) Multidimensional
(C) Balanced
(D) Unbalanced

13. The p-value of a test is the:
(A) Smallest significance level at which the null hypothesis cannot be rejected
(B) Largest significance level at which the null hypothesis cannot be rejected
(C) Smallest significance level at which the null hypothesis can be rejected
(D) Largest significance level at which the null hypothesis can be rejected

14. What is the probability that a project with a mean completion time of 23.9 days and a variance of 6 days will be finished in 26 days?
(A) 0.20
(B) 0.80
(C) 0.63
(D) 0.37

15. An activity has an optimistic time of 15 days, a most likely time of 18 days, and a pessimistic time of 27 days. What is its expected time?
(A) 20 days
(B) 19 days
(C) 60 days
(D) 18 days

16. A person covered some distance in 12 hours. He covered half the distance by rail @ 75 km per hour and the rest by car @ 45 km/hr. The total distance covered by him was
A. 450 km
B. 675 km
C. 337.5 km
D. 1350 km

17. A car covers a distance of 715 km at a constant speed. If the speed of the car would have been 10 km/hr more, then it would have taken 2 hours less to cover the same distance. What is the original speed of the car?
(A) 45 km/hr
(B) 50 km/hr
(C) 55 km/hr
(D) 65 km/hr

18. The milk and water in two vessels A and B are in the ratio 4:3 and 2:3 respectively. In what ratio, the liquids be mixed in both the vessels so that the new liquid contains half milk and half water?
(A) 7:5
(B) 1:2
(C) 2:1
(D) 6:5

19. What would come in the sequence: 16/32,   15 /33,   17/31,   14/34   ?
(A) 23/40
(B) 11/30
(C) 18/30
(D) 19/36

20. A business was set by an entrepreneur. The simple interest accrued on an amount of Rs. 22,500 at the end of four years is Rs. 10,800. What would be the compound interest accrued on the same amount at the same rate of interest at the end of 2 years?
(A) Rs. 15, 888
(B) Rs. 29, 225
(C) Rs. 5, 724
(D) Rs. 9, 686

21. SCD,TEF, UHG,_____,WKL
(A) CMN
(B) UJI
(C) VIJ
(D) IJT

22. CMM, EOO, GQQ, _____, KUU
(A) GRR
(B) GSS
(C) ISS
(D) ITT

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23. Assertion (A): Learning is a lifelong process.

Reason (R): Learning to be useful must be linked with life processes.

Choose the correct answer from the following code:

(A) Both (A) and (R) are true and (R) is the correct explanation of (A).

(B) Both (A) and (R) are true, but (R) is not the correct explanation of (A).

(C) (A) is true, but (R) is false.

(D) (A) is false, but (R) is true.

24. US President Donald Trump on 28 March 2020 signed a _____ stimulus bill to protect US economy from Covid-19.

(A) $2 billion

(B) $20 billion

(C) $200 billion

(D) $2000 billion

25. Name the Central government's 1st comprehensive COVID-19 tracking app.

(A) Aarogya me

(B) Covid-19 check

(C) Coronaless India

(D) AarogyaSetu

26. Forecasts based on judgment and opinion don't include

(A) Executive board opinion

(B) Salesperson opinion from field

(C) Second opinions

(D) Customer surveys

27. Let a means minus (–), b means multiplied by (×), C means divided by (÷) and D means plus (+). The value of 90 D 9 a 29 C 10 b 2 is

(A) 8

(B) 10

(C) 12

(D) 14

28. A school bus driver starts from the school, drives 2 km towards North, takes a left turn and drives for 5 km. He then takes a left turn and drives for 8 km before taking a left turn again and driving for further 5 km. The driver finally takes a left turn and drives 1 km before stopping. How far and towards which direction should the driver drive to reach the school again?

(A) 3km towards North

(B) 7 km towards East

(C) 6 km towards South

(D) 5 km towards North

29. It has been reported in recent years that a very large number of seats in engineering colleges in the country remain vacant at the end of the admission session. Which of the following may be the probable cause of the above effect?

(A) There has-been a considerable decrease in hiring of engineering graduates due to economic slowdown in the recent years.

(B) Students preferred to complete graduation in 3yrs time instead of 4yrs for engineering.

(C) The Govt. has recently decided to provide post- qualification professional training to all engineering graduates at its own cost.

(D) There has always been a very poor success rate among the engineering students.

30. $(23.1)^2 + (48.6)^2 - (39.8)^2 = ? + 1147.69$
(A) $(12.6)^2$
(B) 13.8
(C) 163.84
(D)11.8

31. $3463 \times 295 - 18611 = ? + 5883$
(A) 997091
(B) 997171
(C) 993090
(D) 992070

32. The sum of the ages of two persons Ram and Rahim is 50. 5 years ago, the ratio of their ages was 5/3. The present age of Ram and Rahim are
(A) 30, 20
(B) 36, 16
(C) 40, 15
(D) 50, 20

33. Name the bank which has deployed Robotic Arms for currency sorting at its chests.
(A) HDFC Bank
(B) AXIS Bank
(C) YES Bank
(D) ICICI Bank

34. Chose the valid conclusion from the following statements based on logic given below?
Statement: Most of the Indian states existed before independence.
Conclusions:
(I) Some Indian States existed before independence.
(II) All Indian States did not exist before independence.
(A) Only (I) is implied
(B) Only (II) is implied
(C) Both (I) and (II) are implied
(D) Neither (I) nor (II) is implied

35. Syndicate Bank has been amalgamated into
(A) RBI
(B) SBI
(C) UBI
(D) Canara Bank

Directions (Q. 36-40): To answer the questions you have to follow the given information.

A, B, C, D, E, F, G and H are visiting to three places Delhi, Chennai and Hyderabad in three different vehicles - Mercedes, Audi and Lamborghini . There are three females among them-one in each car. There are at least two persons in each car.

C is not travelling with B and G. E, a male, is travelling with only H and they are not going to Chennai. A is travelling in Mercedes and is going to Hyderabad. D is the sister of A and is travelling by Lamborghini. F and C are travelling together. G is not going to Chennai.

36. Members of which of the following cars are going to Chennai?

(A) Mercedes

(B) Audi

(C) Lamborghini

(D) Either Audi or Lamborghini

37. In which car are four members travelling?

(A) None

(B) Mercedes

(C) Audi

(D) Lamborghini

38. Which of the following combinations represents the three female members?

(A) BDH

(B) GDH

(C) ADH

(D) Cannot be determined

39. Who is travelling with G?

(A) Only B

(B) Only A

(C) Both A and B

(D) Cannot be determined

40. Members of which of the following combinations are travelling in Mercedes?

(A) ACD

(B) ABG

(C) AGD

(D) Data inadequate

PART-B

41. The PE ratio is calculated as follows
(A) Profit of the company divided by sales earnings.
(B) Profit of the company attributable to ordinary shareholders divided by the total earnings for the year.
(C) Price of ordinary share on the market divided by earnings per share.
(D) Price of ordinary share on the market divided by total earnings of the company.

42. An EBIT-EPS indifference analysis chart is used for
(A) Evaluating the effects of business risk on EPS.
(B) Examining EPS results for alternative financing plans at varying EBIT levels.
(C) Determining the impact of a change in sales on EBIT.
(D) Showing the changes in EPS quality over time.

43. An examination of the sources and uses of funds statement is part of:
(A) A forecasting technique.
(B) A funds flow analysis.
(C) A ratio analysis.
(D) Calculations for preparing the balance sheet.

44. Which of the following illustrates the use of a hedging (or matching) approach to financing?
(A) Short-term assets financed with long-term liabilities.
(B) Permanent working capital financed with long-term liabilities.
(C) Short-term assets financed with equity.
(D) All assets financed with a 50 percent equity, 50 percent long-term debt mixture.

45. A supermarket is considering running a promotion on one of its washing powder brands. By doing this, it will not be able to run a campaign on its shampoo brands, which would have generated a contribution of Rs.50,000. What type of cost is this Rs.50,000?
(A) Marginal
(B) Direct
(C) Activity
(D) Opportunity

46. Nike sold a pair of shoes to a retailer for Rs.100. The retailer sold the shoes to you for Rs.125. It cost Nike Rs.80 to make the shoe. It cost the retailer Rs.105 total to buy and sell the shoe. Which answer below is not correct?
(A) Nike will make Rs.20 on the transaction
(B) The retailer will make Rs.20 on the transaction
(C) They both will have the same revenue on the sale
(D) They both will have the same net profit on the sale :

47. Which of the following distance measure do we use in case of categorical variables in k-NN?
1. Hamming Distance
2. Euclidean Distance
3. Manhattan Distance
(A) 1 only
(B) 2 only
(C) 3 only
(D) Both 1 and 2

48. Unsupervised learning is appropriate for
(A) Labelled data
(B) Unlabelled data
(C) Sparse data
(D) None of the above

49. Which approach could be used for both classification and regression?
(A) PCA
(B) SVM
(C) Decision tree
(D) None of the above

50. What is Naïve Bayes Classification?
(A) Unsupervised Regression
(B) Supervised Regression
(C) Unsupervised Classification
(D) Supervised Classification

51. The _____ concept holds that consumers and businesses, if left alone, will ordinarily not buy enough of the organization's products.
(A) Production
(B) Selling
(C) Marketing
(D) Holistic Marketing

52. Which markets include a wide variety of profit and non-profit organizations, such as hospitals, government agencies, and schools, which provide goods and services for the benefit of society?
(A) Consumer
(B) Business-to-business (Industrial)
(C) Reseller
(D) Institutional

53. The four unique elements to services include
(A) Independence, intangibility, inventory, and inception
(B) Independence, increase, inventory, and intangibility
(C) Intangibility, inconsistency, inseparability, and inventory
(D) Intangibility, independence, inseparability, and inventory

54. _____ is the study of how individuals, groups, and organizations select, buy, use, and dispose of goods, services, ideas, or experiences to satisfy their needs and wants.
(A) Target marketing
(B) Psychographic segmentation
(C) Product Differentiation
(D) Consumer behaviour

55. _____ is defined as the difference between the benefits a customer sees from a market offering and the costs of obtaining those benefits.
(A) Customer value
(B) Satisfaction scale
(C) Profit margin
(D) Competitive benefit

56. A consumer contest is an example of _____.
(A) Personal selling
(B) Sales promotion
(C) Advertising
(D) Indirect selling

57. If a manufacturing plant produces nuts and bolts, sequentially, for an automotive buying firm, then which layout is best suitable for its production?
(A) Process
(B) Product
(C) GT
(D) Fixed position

58. In a materials processing operation, the design capacity is defined as
(A) The theoretical maximum output in a given time
(B) The minimum output per given time
(C) The aggregate annual output
(D) The most likely output in a given time

59. What happens when the process cycle time is smaller than the takt time in a manufacturing firm?
(A) May result in stock-outs
(B) May result in under-production
(C) May result in excess inventory
(D) Is not possible in any case

60. Given the following pairs of manufacturing strategies:

I: MRP	1: cost of cutting out many jobs
II: JIT	2: advance planning for medium-inventory, mass-production
III: OPT	3: inventory costs down involving employees
IV: FMS	4: clearing up bottlenecks in the manufacturing process

Which of the following is the correct match?

	I	II	III	IV
(A)	2	3	4	1
(B)	2	3	1	4
(C)	1	3	4	2
(D)	3	1	4	2

61. In a typical shop floor operation, if the process cycle time is 18 mins having four work stations; for a throughput time of 55 mins, what average resource utilization can be expected?
(A) 1.2
(B) 0.83
(C) 0.40
(D) 0.76

62. In a shop floor if the first item takes 10 hours to manufacture, then to have a 20% reduction in the throughput time for the 10th item, what rate of learning (%) is expected the manufacturer to have (approx.)?
(A) 75
(B) 85
(C) 95
(D) 99

63. Which among below is the best position to shape the organizational culture of the healthcare organization.
(A) Medical staff
(B) Hospital board
(C) CEO
(D) Consultants

64. The audit of all the cost and services of bills of health care providers consists of
(A) Profitability review
(B) Productivity review
(C) Utilization review
(D) Preventive review

65. IDMR stands for
(A) Integrated digital medical records
(B) Information digital management records
(C) Information digital management reader
(D) Integrated digital management records

66. Match the following

I: Feasibility/Viability Report	1: Progress of the project up to a certain point in time
II: Project Preliminary Report	2: Assist in decision making
III: Detailed Project Report	3: Produced after audits
IV: Daily Progress Report	4: Current status of the project
V: Audits and Valuation Reports	5: Compilation of reports from all departments

(A) I-3, II-1, III-4, IV-5, V-2
(B) I-4, II-1, III-5, IV-3, V-2
(C) I-2, II-1, III-5, IV4, V-3
(D) I-2, II-1, III-4, IV-5, V-3

67. Which one of the following types of strike is without the consent of officials of union?
(A) Jurisdictional strike of the union
(B) Wild cat strike
(C) Compassion strike
(D) Slow down strike

68. Which one of the following describes the metamorphosis stage of employee socialisation?
(A) Employee joins organisation with his values, attitudes and expectations.
(B) Employee studies the organisation culture.
(C) Employee evaluates the dichotomy between expectations and reality.
(D) Employee becomes comfortable with organisation and internalises its norms.

69. Who among the following has not given a model on Corporate Social Responsibility (CSR)?
(A) Walker
(B) Friedman
(C) Ackerman
(D) Carroll

70. Forming a fixed opinion or attitude towards a single person or object is termed as
(A) Intermittent defence
(B) Stereo typing of the person
(C) The Halo effect
(D) The perceptual set of attitude

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