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GRADE 12

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**Third Term Examination - 2020**

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**LOGIC AND SCIENCE METHOD – I**

 **Answer all the questions.**

01. Which of the following does not belong to the category of prior analytic propositions?

i. A triangle has 3 angles ii. My mother has children

iii. Earth is round iv. 2 + 2 = 4

v. The bachelor doesn’t have a wife

02. The combination of a set and a complement is,

i. Null set ii. Universal set iii. Disjoint

iv. Set Union v. Intersection

03. How to differentiate scientific and non scientific subject,

i. By considering the subject matter.

ii. By considering the ‘will’ of scientists.

iii. Since scientific contents are true.

iv. Based on the law of contradiction.

v. By considering the content which is accepted by most of the scientist.

04. Which of the following statements are true according to eduction?

i. By converting an, ‘I proposition’ you obtain an ‘I proposition’

ii. By contra posing an ‘O proposition’ you obtain an ‘I proposition’

iii. By inverting an, ‘A proposition’ you obtain an ‘I proposition’

iv. By obverting an, ‘O proposition’ you obtain an ‘I proposition’

v. By converting an, ‘E proposition’ you obtain an ‘E proposition’

05. The two leading countries in information technology are,

i. America and Australia ii. Japan and Korea

iii. India and China iv. Singapore and Korea

v. Russia and America

06. According to opposition of propositions given. That an ‘A proposition’ is true. The truth

value of the corresponding E, I, O propositions in order are,

i. True, indeterminable, true ii. True, false, indeterminable

iii. False, true, false iv. True, true, false

v. Indeterminable, indeterminable, false

07. If the death of a serious patient who cannot be cured is good for him. Then the process which

was done by the doctor to cause the death is called,

i. Suicide ii. Euthanasia iii. Anesthetic

iv. Death without sin v. Tricks death

08.

i. P A M ii. P E M iii. P A M

S E M S A M S O M

S E P S E P S E P

iv. P A M v. P A M

S O M M E S

S O P S E P

09. In a valid syllogism at least one premise should be affirmative what do you mean by this,

i. Both premises should be affirmative

ii. Both premises should not be affirmative

iii. Both premises should not be negative

iv. At least one premises should be negative

v. Both premises should be negative

10. According Aristotelian explanation, what is the correct distribution of ‘Socrates is not

Mortal’

i. Distributed, distributed ii. Distributed, undistributed

iii. Undistributed, distributed iv. Undistributed, undistributed

v. None of the above

11. Not a characteristic of a simple sentence,

i. Should be true or false

ii. It is affirmative in meaning

iii. It doesn’t convert about quantity

iv. Should be a negative proposition

v. It cannot be devided into two or many statements.

12. A is equal to B , B is equal to C, Therefore A is equal to C. This is a,

i. Symmetrical relationship ii. Symmetrical transitive

iii. Symmetrical intransitive iv. Asymmetrical intransitive

v. Asymmetrical transitive

13. Who was the pioneer to start Mechanics?

i. Copernicus ii. Kepler iii. Archimedes

iv. Galileo v. Newton

14. The science which strong opinions could be made in the field of social science by wing the

carbon 14 lest is,

i. Economics ii. Psychology iii. Archeology

iv. Geography v. Political Science

15. Aristotle is a wise since all philosophers are wise, in this Enthymeme (syllogism)

i. 1st category syllogism / enthymeme ii. 2nd category syllogism / enthymeme

iii. 3rd category syllogism / enthymeme iv. Modes tollende Ronens

v. None of the above

16. The founder of set theory is?

i. Frage ii. George Boole iii. Morgan

iv. Euler v. Gearge cantex

17. If ‘A and B’ are two sets. The following example is expressed by,

A = {x, y, z} , B = {P, Q, R}

i. Similar sets ii. Null set iii. Disjoint set

iv. Infinite set v. Finite set

18. Which of the following is the correct representation of the venn diagram,

U

A

B

y

*x*

i. B ii. A

iii. *x* B iv. y A

v. *x* B and y B A

19. From the following subject a normal science is,

i. Geology ii. Philosophy iii. Chemistry

iv. Engineering v. Psychology

20. All the time when you touch fire you get burnt what’s the law of thought relating to this,

i. Law of identity ii. The law of contradiction.

iii. The law of addition iv. The law of excluded middle

v. The laws of reasoning

21. The correct order of term in ‘B’ which paterns the qescnption in ‘A’ are,

**A B**

1. Shedule who study of logic a. Abstract term

2. Man who stepped on the moon b. Common names

3. University of Ruhunu c. Proper name

4. Arthur C. Clark d. Collective words

5. Blind e.

i. a, b, d, e ii. a, b, d, c, e iii. b, a, c, d, e

iv. b, a, d, c, e v. b, e, d, a, c

22. The symbolic statement which represents the law of excluded middle is,

i. (P P) ii. (P P) iii. (P Q)

iv. (P P) v. (P P)

23. Logic started to take two form of algebra,

i. From Aristotle ii. From Decarte iii. From Russel

iv. From Berclys v. From Libnist

24. Michelle Faraday is?

i. Social Scientist ii. Anthropologist iii. Phycist

iv. Chemist v. Biologist

25. Earth centred theory was first presented by,

i. Aristotle ii. Copernicus iii. Aristarcus

iv. Eudoxus v. Ptolemy

26. Scientist who didn’t present theory of relativity,

i. Thomas Kuhn ii. Paul Fiberand iii. Russel Hansam

iv. Galileo Gallilli v. Michael Palani

27. “Findingout about the argument which accepts or exclude a scientific hypothesis is scientific

method”. This was said by,

i. A. J. Eyre ii. Francis Bacon iii. David Hassan

iv. Karl Popper v. Karl Hemple

28. Whose two psychologist who found Experimental psychology,

i. Wunat ii. John Lock iii. J. B. Watson

iv. Karl Yung v. Jean Piyaget

29. Which of the following is not a characteristic of a good hypothesis,

i. Simple ii. Ability to verify

iii. Consistency of harmony iv. Expressing more predictions

v. Providing solusion to metaphysical problem.

30. Who wrote the book “Philosophy of natural science” about scientific method?

i. Russel Hansan ii. Spinosa

iii. Karl Hemple iv. J. S. Mill

v. Wittgamstain

31. “Eventhaugh other philosophers analysed the world before me. What I do is I change the

world.”

i. Gallileo ii. Copernicus iii. Karl Marx

iv. Newton v. Hegal

32. In scientific method (Argument) anything can happen. There’s no specific method. Whose the

methodologist who expressed the above statement.

i. Thomas Khun ii. Firaband iii. Frague

iv. Raimenn v. Berclys

33. The rules relating to the distribution of terms in a syllogisms are,

i. I, II, rules ii. III, IV rules iii. IV, II rules

iv. V, VI rules v. V, III rules

34. A characteristic that should not be in a scientific theory,

i. Vast field ii. Cantains a lot of principles

iii. Ability to verify iv. Cannot be proven false

v. Provide successful prediction.

35. Utility hypothesis is,

i. Correct hypothesis

ii. Reasoning hypothesis

iii. A hypothesis which create the plan to a new hypothesis

iv. Falsifiable hypothesis

v. Exploratory hypothesis

36. In symbolic logic in an argument with two veriables,

i. Two ii. Four iii. Sixty four

iv. Thirty two v. Sixteen

37. Anechism base argument are, “Incommensurable” what did Khun mean by this,

i. Two basic arguments are not equal.

ii. Both could be falsified.

iii. Two basic arguments can never be equal in meaning.

iv. Two basic arguments are conerant.

v. Basic arguments are always taughtological.

38. What is the theory which was found by Emri Lakatos relating to scientific method?

i. The conclusive truth theory

ii. Theory of inclucsion

iii. Scientific reason programme theory

iv. Psychological theory about the collective sciborodinale mind.

v. Theory about incletermnate atomy.

39. ((P Q) (P Q)) , what is the logically equalent symbolic statement for the above

atgument,

i. (P Q) ii. (P Q) iii. (P Q)

iv. (P Q) v. (P Q)

40. According to truth tress what is the symbolic formula which is not subjected to branching,

i. (Q Q) ii. (Q Q) iii. (Q Q)

iv. (Q Q) v. (Q Q)

41. From the following statements

i. (P Q) ii. (P Q) iii. (P Q)

Q P Q

P Q P

iv. (P Q) v. (P Q)

P Q

Q P

42. From the below mentioned philosophers who is related to intellectual philosophr,

i. David Hasun ii. J. S. Will iii. Decart

iv. Euclid v. Nectshe

43. What is the social science which was born as a social scientist but becaming a natural scientist?

i. Economics ii. History iii. Political Science

iv. Psycology v. Ethics

44. The form of Explanation introduced by Karl Hemple

i. Inductivism ii. Deductivism

iii. The law at contridiction iv. Inductive verification method

v. Deductive falsification method

45. According to the rules of modes pones and modes tollens. The number of sub figure is,

i. 04 ii. 02 iii. 08 iv. 12 v. 16

46. The state properly are being sold only it Sri Lanka is a poor state. Correct symbolization is,

i. (P Q) ii. (P Q) iii. (P Q)

iv. (P Q) v. (P Q)

47. The ways in which truth values could be in a taughtological statement is,

i. T T F F ii. T F F F iii. F F F F

iv. T T T T v. F F F T

48. Strong valid argument is,

i. True valid argument ii. False valid argument

iii. Invalid but true argument iv. Invalid but false argument

v. Neither true or false

49. Not a practical value of logic,

i. Getting to know an unknown facts.

ii. Being able to solve a problem logically.

iii. Being helpful to identify computer science.

iv. Threalening the opposition unnecessarily and the winning.

v. Helps in getting to know technological excecises.

50. Whose the psysicisrt who found the “Black hole”

i. Newton ii. Enslem iii. Max Plark

iv. Kanap v. Sleven Heleings