PREVIOUS YEAR PAPER

UP PGT 2021 — Logic (Series A)

UP PGT · 17 or 18 August 2021

125 questions · +3.4 for a correct answer, −0 for a wrong one · 120 minutes

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Questions from the U.P. Secondary Education Services Selection Board's paper of 17 or 18 August 2021. Each question is followed by its answer, and the answer key is repeated on the last page.

Take it as a timed practice test: exambharo.com/up-pgt/previous-year-papers/up-pgt-2021-logic-series-a/

Logic

1. In categorical syllogism, if minor premise is negative, then
   (a) Middle term distributed in both premises
   (b) Middle term distributed in one premise
   (c) Middle term undistributed
   (d) None of the above
   Answer: (d)

2. "If all gold of golden temple is mine then I would be a rich person. But all gold of golden temple is not mine. Therefore I am not a rich person".
The argument is
   (a) Valid
   (b) Invalid
   (c) Probable
   (d) None of the above
   Answer: (b)

3. 'Organon' is related to
   (a) Mill
   (b) Aristotle
   (c) Pears
   (d) Venn
   Answer: (b)

4. Fallacy of undistributed Middle Term is found in which one of the following pairs of moods ?
   (a) IAA & AAA
   (b) IIA & OIE
   (c) AIA & AOE
   (d) IEE & EIE
   Answer: (b)

5. Syllogism of the form 'AAA – 2' is

(a) Valid

(b) Invalid

(c) Valid and invalid both

(d) None of these

Answer: (b)

6. Rule of material implication is

(a) $(p \supset q) \equiv (p \vee q)$

(b) $(p \supset q) \equiv (\sim p \vee q)$

(c) $(p \supset q) \equiv (\sim p \bullet q)$

(d) $(p \supset q) \equiv (p \vee \sim q)$

Answer: (b)

7. How many moods are possible in a syllogism ?

(a) 32

(b) 64

(c) 16

(d) 128

Answer: (b)

8. Which logician had introduced notion of 'Variable' i logic ?

(a) George Boole

(b) Bertrand Russell

(c) Leibniz

(d) Aristotle

Answer: (d)

9. Which one of the following is correct for contrary relation ?

(a) They cannot both be true together, although both may be false

(b) They cannot both be false together, although both may be true

(c) They are true together

(d) They both are undetermined

Answer: (a)

10. Which one of the following rule is used for the following inference ?
$(P \supset \sim G) \supset (\sim H \vee \sim I)$
$\sim(\sim H \vee \sim I)$
$\therefore \sim(P \supset \sim G)$

(a) Modus Ponens

(b) Modus Tollens

(c) Demorgan's Law

(d) Constructive Dilemma

Answer: (b)

11. p↓q means
    (a) p is true and q is true
    (b) p is true and q is false
    (c) neither p is true and nor q is true
    (d) none of these

    Answer: (c)

12. Which one of the following is equivalent to p|q ?
    (a) ~p∨q
    (b) ~p∨~q
    (c) p∨~q
    (d) P∨q

    Answer: (b)

13. A mediate inference has
    (a) Only one premise
    (b) At least one premise
    (c) Exactly two premise
    (d) More than one premise

    Answer: (d)

14. In Syllogism who added the fourth figure ?
    (a) Aristotle
    (b) Galen
    (c) Julius Pacius
    (d) B. Russell

    Answer: (b)

15. Find out fallacy gone through the following argument.
All poets are human.
All students are human.
∴ All students are poets.
    (a) Illicit major
    (b) Illicit minor
    (c) Existential fallacy
    (d) Undistributed middle term

    Answer: (d)

16. In following which are contradictories ?
    (a) SP = 0 and $S\bar{P} \neq 0$
    (b) $S\bar{P}$= 0 and $S\bar{P} \neq 0$
    (c) $S\bar{P}$ = 0 and SP ≠ 0
    (d) SP ≠ 0 and $S\bar{P} \neq 0$

    Answer: (b)

17. Which one of the following is correct about mood ?
(a) The mood of a syllogism is decided by minor term
(b) The mood of a syllogism is decided by major term
(c) The mood of a syllogism is determined by the types of categorical proposition
(d) The mood of a syllogism is decided by figure

Answer: (c)

18. Which one of the following is true ?
(a) Deductive reasoning is strong and Inductive reasoning is weak
(b) Deductive reasoning is weak and Inductive reasoning is strong
(c) Deductive reasoning is certain and Inductive reasoning is probable
(d) Deductive reasoning is probable and Inductive reasoning is necessary

Answer: (c)

19. Which proposition have existential import in Boolean interpretation ?
(a) A and E
(b) I and O
(c) Only A
(d) Only E

Answer: (b)

20. Probability is associated with
(a) Inductive logic
(b) Deductive logic
(c) Both inductive as well as deductive l.
(d) Neither inductive nor deductive logics

Answer: (a)

21. Statement form p•~p is called
(a) Contradiction
(b) Contingent
(c) Tautology
(d) None of these

Answer: (a)

22. Which one of the following is equivalent to 'p∨q' ?
(a) ~(p∨q)
(b) ~p•~q
(c) ~(~p•~q)
(d) ~(~p•q)

Answer: (c)

23. 'Principia Mathematica' was written by
    (a) Gottlob Frege and R. Marsh
    (b) C.S.Peirce and Wettgenstein
    (c) John Venn and Boole
    (d) Russell and A. N. Whithead

    Answer: (d)

24. Which one of the following is correct for Dagger-function ?
    (a) p|q
    (b) p∨q
    (c) p↓q
    (d) p↑q

    Answer: (c)

25. Peirce's Law is
    (a) [(p ⊃ q)⊃q]⊃q
    (b) [(p ⊃ q)⊃p]⊃q
    (c) [(p ⊃ q)⊃p]⊃p
    (d) [(p ⊃ q)⊃q]⊃p

    Answer: (c)

26. Which one of the following mood and figure of a categorical syllogism is valid ?
    (a) EAO – 4
    (b) OAI – 3
    (c) OAO – 3
    (d) OAO – 4

    Answer: (c)

27. Which one of the following is correct for contingent statement ?
    (a) Only false instances in the conclusion
    (b) Only true instances in the conclusion
    (c) Both true and false instances in the conclusion
    (d) None of the above

    Answer: (c)

28. ~(P•Q) ≡ ~(~P∨~Q)
The above statement form is a
    (a) Tautology
    (b) Contingent
    (c) Contradictory
    (d) None of the above

    Answer: (c)

29. Which one of the following is the correct symbolic from of strong sense disjunction ?
    (a) ~p∨~q
    (b) (p∨q)•~(p•q)
    (c) ~p∨q
    (d) p∨q
    Answer: (b)

30. What is basic function of language ?
    (a) Directive
    (b) Expressive
    (c) Informative
    (d) All the above
    Answer: (d)

31. Negation of statement p•q will be
    (a) ~(~p•q)
    (b) ~p•q
    (c) ~(p•q)
    (d) p•~q
    Answer: (c)

32. Which one of the following represents Law of ma al equivalence ?
    (a) P ≡ (P∨P)
    (b) (P ≡ Q) ≡ (P•Q)∨(~P•~Q)
    (c) P ≡ (P•P)
    (d) P ≡ (P⊃P)
    Answer: (b)

33. Not every S is P, represent by proposition
    (a) E
    (b) O
    (c) I
    (d) A
    Answer: (b)

34. Which fallacy is committed in this syllogism ?
Some professors are scholars.
Some professors are politicians.
Therefore, some politicians are scholars.
    (a) Fallacy of illicit major term
    (b) Fallacy of illicit minor term
    (c) Fallacy of undistributed middle term
    (d) Fallacy of four terms
    Answer: (c)

35. Which one of the following is deduced from (~p•q)• [(r•s)⊃ p]•r ?
    (a) ~q
    (b) q ⊃ r
    (c) ~s
    (d) r ⊃ s
    Answer: (c)

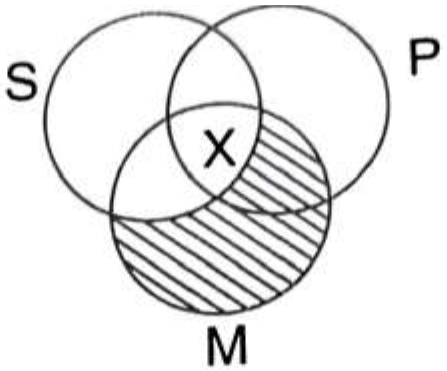
36. Which one of the following is correct for symmetrical relation ?
    (a) (x) (y) (R_{xy} ⊃ ~R_{yx})
    (b) (x) R_{xx}
    (c) (x) R_x
    (d) (x) (y) (R_{xy} ⊃ R_{yx})
    Answer: (d)

37. 'Some politicians are honest.' Which class is distributed in this statement ?
    (a) Politicians
    (b) Honest
    (c) Both politicians and honest
    (d) Neither politicians nor honest
    Answer: (d)

38. Which of the following statements is true ?
    (a) All material equivalences are logical equivale[illegible]s too
    (b) All logical equivalences are material equival[illegible]es too
    (c) Some material equivalences are log[illegible]ulences too
    (d) Both B and C
    Answer: (d)

39. If "No man is mortal" is true, what can be said about "No mortal is man" ?
    (a) True
    (b) False
    (c) Contingent
    (d) None of the above
    Answer: (a)

40. Identify the figure and mood of given Venn Diagram.



(a) EAO – IV
(b) AAI – II
(c) IAO – I
(d) IAI – III

Answer: (d)

41. Which logician has criticized the traditional square of opposition ?

(a) Aristotle
(b) Plato
(c) De Morgan
(d) George Boole

Answer: (d)

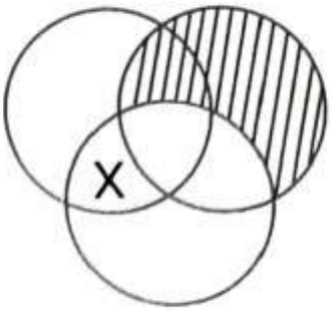
42. When we replace the predicate term by its com ment and change quality of a proposition, it is called

(a) Obversion
(b) Contraposition
(c) Inversion
(d) Conversion

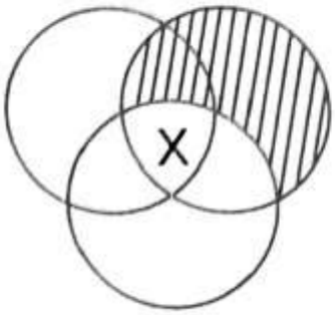
Answer: (a)

43. What will be correct Venn Diagram of AEE – IV figure ?

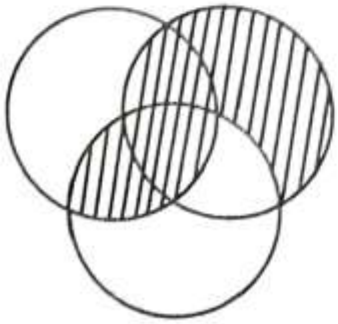
(a)



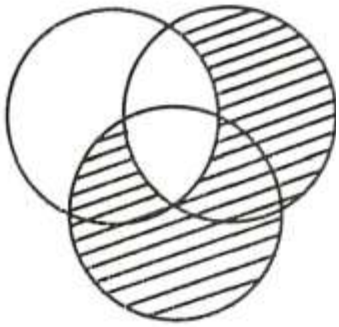
(b)



(c)



(d)



Answer: (c)

44. Which fallacy have been committed in following argument ?
All Russians were revolutionists.
All anarchists were revolutionists.
Therefore, all anarchists were Russians.

(a) Fallacy of four term
(b) Fallacy of illicit major
(c) Fallacy of illicit minor
(d) Fallacy of undistributed middle

Answer: (d)

45. Which one of the following is correct if the conclusion of a valid syllogism is 'A' ?

(a) IIA – 2
(b) AAA – 1
(c) AAA – 2
(d) AAA – 3

Answer: (b)

46. In traditional square of opposition which one of the following is the opposite of 'E' proposition

(a) 'I' proposition
(b) 'A' and 'I' proposition
(c) 'A', 'I' and 'O' proposition
(d) 'A' and 'O' proposition

Answer: (c)

47. Which one of the following statements is true about the inversion ?

(a) There is no inversion of I-proposition
(b) There is no inversion of O-proposition
(c) Both (A) and (B) are true
(d) Neither (A) nor (B) is true

Answer: (c)

48. Which rule is betrayed in the following inference ?
Varanasi is situated on the bank of Ganges.
∴ All cities are situated on the bank of Ganges.

(a) Universal Generalization
(b) Existential Generalization
(c) Universal Instantiation
(d) Existential Instantiation

Answer: (a)

49. According to Russell 'The King of France' is

(a) A name

(b) Description

(c) Not a description

(d) None of these

Answer: (b)

50. Which one of the following is correct for 'p$\vee$~p' ?

(a) The law of identity

(b) The law of excluded middle

(c) The law of contradiction

(d) None of the above

Answer: (b)

51. If A and B propositions are sub contraries, then

(a) If A is true, then B is false

(b) If A is false, then B is false

(c) If A is true, then B is true

(d) If A is false, then B is true

Answer: (d)

52. "God helps those who help themselves". Symboli[illegible]nis statement.
[Symbol : Px = x is a person,
Axy = x helps y,
Agx = God helps x]

(a) $(\exists x)\ [(Px \bullet Axx) \supset Agx]$

(b) $(x)\ [(Px \vee Axx) \supset Agx]$

(c) $(x)\ [(Px \bullet Axx) \supset Agx]$

(d) $(\exists x)\ [(Px \vee Axx) \supset Agx]$

Answer: (c)

53. Choose correct option.
ϕy
$\therefore (x)\ (\phi x)$

(a) U.I.

(b) U.G.

(c) E.G.

(d) E.I.

Answer: (b)

54. Which one of the following represents Law of excluded middle ?
    (a) P•~P
    (b) P⊃~P
    (c) P∨~P
    (d) P≡~P
    Answer: (c)

55. p∨q will be true
    (a) p and q both are true
    (b) p is true and q is false
    (c) p is false and q is true
    (d) all of the above
    Answer: (d)

56. A Deductive Argument is
    (a) Only valid
    (b) Only invalid
    (c) Neither valid nor invalid
    (d) Either valid or invalid
    Answer: (d)

57. Which one of the following is not correct for categ cal syllogism ?
    (a) It is a deductive argument
    (b) It consists of three terms only
    (c) It is an inductive argument
    (d) It must have a conclusion
    Answer: (c)

58. We can infer a conjunct from a conjunctive proposition. This law is called
    (a) Law of addition
    (b) Law of conjunction
    (c) Law of simplification
    (d) None of the above
    Answer: (c)

59. Two statements are said to be logically equivalent in which one of the following cases ?
    (a) Their biconditional is tautologous
    (b) Their biconditional is contradictory
    (c) Their biconditional is contingent
    (d) Both have the same truth value
    Answer: (a)

60. Which one of the following is not the purpose of definition ?

(a) To increase vocabulary

(b) To eliminate ambiguity

(c) To clarify meaning

(d) To increase vagueness

Answer: (d)

61. If there are three variables in Truth Table then number of rows will be

(a) 4

(b) 6

(c) 8

(d) 12

Answer: (c)

62. According to square of opposition, if two propositions are contrary to each other, what will be their mutual position ?

(a) Both can be true, but cannot be false

(b) Both can be false, but cannot be true

(c) If one is true, the other will be false

(d) Truth of one proposition implies the truth of the other proposition

Answer: (b)

63. 'Love', 'Hate' and 'Teacher' represent which type relation ?

(a) Only non-symmetrical

(b) Only non-transitive

(c) Only non-reflexive

(d) All of them

Answer: (d)

64. "Sohan is not ill", this is a

(a) Simple proposition

(b) Relational proposition

(c) Complex proposition

(d) None of the above

Answer: (c)

65. Name the rule in the following argument from which the conclusion is drawn.
1. $(A \supset B) \supset (C \vee D)$
2. $(A \supset B)$
/∴$(C \vee D)$

(a) Modus Ponens

(b) Modus Tollens

(c) Hypothetical syllogism

(d) Addition

Answer: (a)

66. Foundation of Logic were laid by
    (a) Plato
    (b) Socretes
    (c) Aristotle
    (d) Zeno

    Answer: (c)

67. 'Minor term' in this syllogism is
All dogs are mammals.
All cats are mammals.
Therefore, all cats are dogs.
    (a) Mammals
    (b) Dogs
    (c) Cats
    (d) None of these

    Answer: (c)

68. Which one of the following is correct regarding 'Propositions' ?
    (a) All sentences are propositions
    (b) No sentences are propositions
    (c) Those sentences are propositions which either true or false
    (d) Commands and exclamations are propositions

    Answer: (c)

69. Which one of the following proposition's predicate term is distributed ?
    (a) A
    (b) E
    (c) I
    (d) O

    Answer: (d)

70. 'The Mathematical Analysis of Logic' is written by
    (a) Augustus de Morgan
    (b) Bertrand Russell
    (c) George Boole
    (d) A.N. Whithead

    Answer: (c)

71. Which one of the following relation between propositions is accepted in modern logic ?
    (a) Contrary
    (b) Sub-contrary and contrary
    (c) Contradictory and sub-contrary
    (d) Contradictory

    Answer: (d)

72. Which is a proposition ?

(a) (x) [(Px• By)⊃Rx]

(b) (∃x)[Rx• {(y) My⊃Nx}]

(c) (y) [{Ay• (x) Rx}⊃Mx]

(d) (x) [(Ax• Bx)⊃{(∃y)Ry• My}]

Answer: (b)

73. Choose correct alternative from the following.
"Being as old as" is

(a) Irreflexive relation

(b) Non-reflexive relation

(c) Reflexive relation

(d) None of the above

Answer: (c)

74. What is the correct symbolization of 'p if q' ?

(a) p ≡ q

(b) p ⊃ q

(c) q ⊃ p

(d) p ⊃ ~q

Answer: (c)

75. If both premises are particular in a syllogism ther nclusion will be

(a) Universal

(b) Particular

(c) Affirmative

(d) Conclusion will not be drawn

Answer: (d)

76. Find out fallacy gone through the following argument.
All racers are hard workers.
All racers are students.
∴ All students are hard workers.

(a) Illicit major

(b) Illicit minor

(c) Existential fallacy

(d) Undistributed middle term

Answer: (b)

77. Which term is distributed in proposition 'Some soldiers are cowards' ?

(a) Only soldiers

(b) Only cowards

(c) Both soldiers and cowards

(d) Neither soldiers nor cowards

Answer: (d)

78. First of all who discovered incompleteness of the 19 Rules of inference ?

(a) Leo Simons

(b) I.M. Kopy

(c) Albertus Magnus

(d) B. Russell

Answer: (a)

79. Strong or exclusive sense of disjunction means

(a) At least one and at most two

(b) At least one and at most one

(c) Both (A) and (B)

(d) None of these

Answer: (b)

80. Which one of the following can be true or false ?

(a) (x) ($H_x \supset M_x$)

(b) (x) ($H_x \bullet M_x$)

(c) ($\exists$x) ($H_x \bullet M_x$)

(d) $H_a \vee H_b$

Answer: —

81. "If Ram is bachelor then Ram is unmarried." Above statement is which type of implication ?

(a) Logical implication

(b) Causal implication

(c) Definitional implication

(d) Decisional implication

Answer: (c)

82. Which rule is used in the following inference ?

~(X) Lxy

$\therefore$($\exists$x) ~ Lxy

(a) Existential Generalization

(b) Universal Generalization

(c) Existential Instantiation

(d) Quantifier negation

Answer: (d)

83. The Rule of Transposition is

(a) $(p \supset q) \equiv (\sim p \vee q)$

(b) $\sim(p \supset q) \equiv (p \bullet \sim q)$

(c) $[(p \bullet q) \supset r] \equiv [p \supset (q \supset r)]$

(d) $(p \supset q) \equiv (\sim q \supset \sim p)$

Answer: (d)

84. Which one of the following is not a truth-function ?

(a) ~(Negation)

(b) • (Dot)

(c) ⊃ (Horse-shoe)

(d) ≡ (Bi-Conditional)

Answer: —

85. If 'All socialists are pacifists is true, what may be inferred about' some nonpacifists are not nonsocialists ?

(a) False

(b) True

(c) Undetermined

(d) None of these

Answer: (a)

86. What will be immediate inference based on traditional square of opposition if proposition O being given as false ?

(a) I is undetermined

(b) I is false

(c) I is true

(d) None of the above

Answer: (c)

87. Which one of the following is equivalent to '~ (x) x ⊃ Bx)' ?

(a) (x) (Ax ⊃ ~Bx)

(b) (x) (Ax • Bx)

(c) (3x) (Ax• ~Bx)

(d) (3x) (Ax• Bx)

Answer: (c)

88. Which one is correct statement about the categorical propositions ?

(a) There are six types of categorical propositions

(b) The term-subject is not distributed in universal affirmative proposition

(c) The term-predicate is distributed in particular negative proposition

(d) Particular affirmative proposition is denoted by the symbol – 'A'

Answer: (c)

89. Some athletes are not actors. All actors are runners. Therefore, some runners are not athletes. This figure and mood of the above mentioned syllogism are

(a) OAO in figure IV

(b) OAO in figure III

(c) OAO in figure I

(d) IAO in figure IV

Answer: (a)

90. Which one of the following is a proposition ?
(a) (X) (Fx• Gy)
(b) Fx• Gy
(c) (∃x) (Fx• Gb)
(d) (Fa• Gb)∨Gc
Answer: (d)

91. In which figure is the middle term, subject term in both the premises ?
(a) First figure
(b) Second figure
(c) Third figure
(d) Fourth figure
Answer: (c)

92. Which one of the following is not the criteria for the assessment of hypothesis ?
(a) Relevance
(b) Testability
(c) Complexity
(d) Simplicity
Answer: (c)

93. Which one of the following is contradictory of "SP J" ?
(a) SP = 0
(b) $S\bar{P} \neq 0$
(c) $\bar{S}P = 0$
(d) SP ≠ 0
Answer: (d)

94. Obversion is valid in
(a) Only A and E propositions
(b) Only I and O propositions
(c) Only E and O Propositions
(d) A, E, I , O all propositions
Answer: (d)

95. For a disjunctive proposition to be false
(a) Only one disjunct must be false
(b) Only one disjunct must be true
(c) Both disjuncts must be true
(d) Both disjuncts must be false
Answer: (d)

96. A proposition should have

(a) At least one bound variable

(b) At least one constant

(c) At least one free variable

(d) No free variable

Answer: (d)

97. Which one of the following is correct ?

(a) An inductive argument is either valid or Invalid

(b) A deductive argument is one whose premises are claimed to provide conclusive ground for the truth of its conclusion

(c) A deductive argument is good or bad

(d) A deductive argument is probable

Answer: (b)

98. Which one of the following shows the quality of the propositions ?

(a) Affirmative and Negative

(b) Universal and Particular

(c) Affirmative and Universal

(d) Negative and Particular

Answer: (a)

99. Which one of the following fallacies is correct in question – 'Have you abandoned the beating of your wife' ?

(a) The fallacy of moral question

(b) The fallacy of pseudo question

(c) The fallacy of legal question

(d) All the three (A), (B) and (C)

Answer: (b)

100. "John and Gilbert will not both be respected" will be symbolized as

(a) $\sim(J \vee G)$

(b) $\sim J \bullet \sim G$

(c) $J \vee \sim G$

(d) $\sim(J \bullet G)$

Answer: (d)

101. Barbara is valid mood. What is figure of it ?

(a) 4

(b) 3

(c) 2

(d) 1

Answer: (d)

102. Name the fallacies committed in 'IEO – 1'.

(a) Undistributed middle

(b) Illicit major

(c) Illicit minor

(d) Existential fallacy

Answer: (b)

103. If A and B are true propositions, X and Y are false propositions and the values of P and Q are unknown, which one of the following compound statements is true ?

(a) $P \vee \sim P$

(b) $\sim A \bullet Q$

(c) $\sim A \bullet P$

(d) $\sim(P \bullet Q) \bullet X$

Answer: (a)

104. If X, Y, Z are true and P, Q, R false, what will be value of the following ?
$[(X \supset P) \bullet (Y \supset Q)] \vee (Z \supset R)$

(a) False

(b) True

(c) Probable

(d) None of the above

Answer: (a)

105. I proposition can be expressed as

(a) $(x)\ (\phi_x \supset \psi_x)$

(b) $(\exists x)\ (\phi_x \bullet \psi_x)$

(c) $(x)\ (\phi_x \supset \sim\psi_x)$

(d) $(\exists x)\ (\phi_x \bullet \sim\psi_x)$

Answer: (b)

106. Propositions are

(a) Either true or false

(b) Neither true nor false

(c) Only true

(d) Only false

Answer: (a)

107. Which one of the following is correct about figure ?

(a) Figure is the major term

(b) The position of the middle term in the premises

(c) Figure is the minor term

(d) The position of categorical proposition

Answer: (b)

108. Pick out correct symbolic form for the following proposition.
"Bats are not men."

(a) (∃x) (Bx ⊃~Mx)

(b) (X) (Bx ⊃ ~ Mx)

(c) (∃x) (Bx• ~ Mx)

(d) (X) (~Bx⊃Mx)

Answer: (b)

109. Which is not a rule of replacement ?

(a) Commutation

(b) Association

(c) Transposition

(d) Inconsistency

Answer: (d)

110. The statement [(p ⊃ q) ≡ (p ∨ q)] is a

(a) Tautology

(b) Contradiction

(c) Contingent statement

(d) True statement

Answer: (c)

111. Which one is true ?

(a) The term that occurs as the subject of the c[illegible]lusion is called 'major term'

(b) The term that occurs as the predica[illegible]onclusion is called 'major term'

(c) The term that occurs as the predicate ter[illegible] the conclusion is called 'middle term'

(d) The term that occurs as the subject term of the conclusion is called 'middle term'

Answer: (b)

112. Which one of the following statement forms is not contradictory ?

(a) (P•Q)•(P⊃~Q)

(b) (P⊃P)⊃(Q•~Q)

(c) [P⊃(Q⊃P)]⊃[(Q⊃Q)⊃~(R⊃R)]

(d) (P⊃Q)≡(~Q⊃~P)

Answer: (d)

113. The correct symbolic form of "Not everything is mortal" would be

(a) ~(∃x) Mx

(b) (X) ~ Mx

(c) (∃x) ~Mx

(d) None of the above

Answer: (c)

114. Find out the mood and figure of the following :
All artists are egoists.
Some artists are paupers.
∴ Some paupers are egoists.

(a) AII – 1
(b) AII – 2
(c) AEE – 4
(d) AII – 3

Answer: (d)

115. Which one is true about the following symbols ?

(a) Symbol for 'conjunction' is ∨
(b) Respective symbols for 'implication' and 'equivalence' are ⊃ & ≡
(c) 'Curl' is the symbol for 'Disjunction'
(d) 'Wedge' is the symbol for 'Negation'

Answer: (b)

116. Choose contradictory of (X)~Mx from the following.

(a) ~(X) Mx
(b) ~(∃X) Mx
(c) (X) Mx
(d) (∃X) Mx

Answer: (d)

117. According to traditional square of oppo[illegible]o propositions cannot both be true and cannot both be false are called

(a) Contrary
(b) Sub contrary
(c) Subalternation
(d) Contradictory

Answer: (d)

118. Which one of the following relations of square of opposition is found between particular affirmative and particular negative propositions ?

(a) Contradictory
(b) Contrary
(c) Sub-contrary
(d) Subalternation

Answer: (c)

119. Which one of the following is correct for Stroke function ?

(a) p|q

(b) p∨q

(c) p ⊃ q

(d) p↓q

Answer: (a)

120. How many kinds are there of categorical propositions ?

(a) One

(b) Two

(c) Three

(d) Four

Answer: (d)

121. Which one of the following is an example of rule of absorption ?

(a) p ⊃ q
/∴p ≡ (p•q)

(b) p ⊃ q
/∴~p∨q

(c) p ∨ q
~p
/∴q

(d) p ⊃ q
/∴p ⊃ (p•q)

Answer: (d)

122. When a proposition is first obverted then converted then obverted again, it is called

(a) Conversion

(b) Inversion

(c) Obversion

(d) Contraposition

Answer: (d)

123. According to George Boole in which one of the following relations of traditional square of opposition, there is not an Existential fallacy ?

(a) Contradictory

(b) Contrary

(c) Sub-contrary

(d) Subalternation

Answer: (a)

124. T$\vee$F is

(a) True in the exclusive sense of disjunction

(b) False in the inclusive sense of disjunction

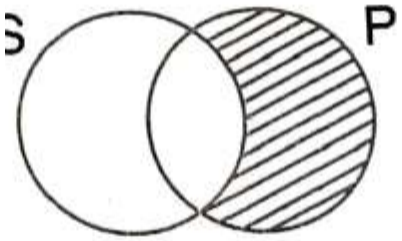
(c) True in the inclusive sense of disjunction

(d) Both A and C

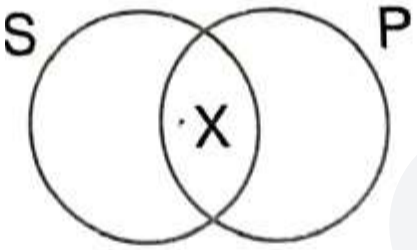
Answer: (d)

125. 'Some P is not S' is represented by Venn diagram

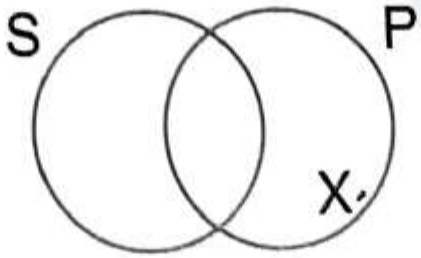
(a)



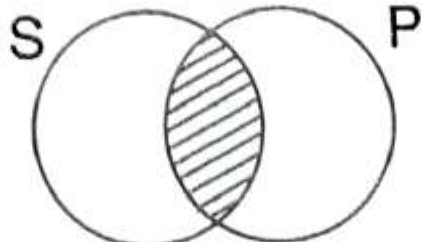
(b)



(c)



(d)



Answer: (c)

Answer key

Answer key from the U.P. Secondary Education Services Selection Board's official answer key for this sitting. "—" means the key gave none.

Logic

1	**(d)**	2	**(b)**	3	**(b)**	4	**(b)**	5	**(b)**	6	**(b)**	7	**(b)**	8	**(d)**
9	**(a)**	10	**(b)**	11	**(c)**	12	**(b)**	13	**(d)**	14	**(b)**	15	**(d)**	16	**(b)**
17	**(c)**	18	**(c)**	19	**(b)**	20	**(a)**	21	**(a)**	22	**(c)**	23	**(d)**	24	**(c)**
25	**(c)**	26	**(c)**	27	**(c)**	28	**(c)**	29	**(b)**	30	**(d)**	31	**(c)**	32	**(b)**
33	**(b)**	34	**(c)**	35	**(c)**	36	**(d)**	37	**(d)**	38	**(d)**	39	**(a)**	40	**(d)**
41	**(d)**	42	**(a)**	43	**(c)**	44	**(d)**	45	**(b)**	46	**(c)**	47	**(c)**	48	**(a)**
49	**(b)**	50	**(b)**	51	**(d)**	52	**(c)**	53	**(b)**	54	**(c)**	55	**(d)**	56	**(d)**
57	**(c)**	58	**(c)**	59	**(a)**	60	**(d)**	61	**(c)**	62	**(b)**	63	**(d)**	64	**(c)**
65	**(a)**	66	**(c)**	67	**(c)**	68	**(c)**	69	**(d)**	70	**(c)**	71	**(d)**	72	**(b)**
73	**(c)**	74	**(c)**	75	**(d)**	76	**(b)**	77	**(d)**	78	**(a)**	79	**(b)**	80	**—**
81	**(c)**	82	**(d)**	83	**(d)**	84	**—**	85	**(a)**	86	**(c)**	87	**(c)**	88	**(c)**
89	**(a)**	90	**(d)**	91	**(c)**	92	**(c)**	93	**(d)**	94	**(d)**	95	**(d)**	96	**(d)**
97	**(b)**	98	**(a)**	99	**(b)**	100	**(d)**	101	**(d)**	102	**(b)**	103	**(a)**	104	**(a)**
105	**(b)**	106	**(a)**	107	**(b)**	108	**(b)**	109	**(d)**	110	**(c)**	111	**(b)**	112	**(d)**
113	**(c)**	114	**(d)**	115	**(b)**	116	**(d)**	117	**(d)**	118	**(c)**	119	**(a)**	120	**(d)**
121	**(d)**	122	**(d)**	123	**(a)**	124	**(d)**	12	**(c)**						