BA PHILOSOPHY III SEMESTER CORE COURSE

SYMBOLIC LOGIC

QUESTION BANK

1. Logic is the ………………………………………..
a) science of reasoning b)science of beauty
c) science of morality d) science of astronomy
2. The proposition arrived at on the basis of proposition or propositions in an argument, is called……………………………..
a) premise b) modus ponens
c) conclusion d) modus tollens
3. The proposition or propositions on the basis of which the conclusion is arrived at in an argument is called …………………………..
a) syllogism or syllogisms b) dilemma
c) premise or premises d) disjunctive syllogism
4. Premises and conclusion are…………………………….
a) valid or invalid b) sound or unsound
c) valid or sound d) true or false
5. Deductive argument is characterized as…………………………….
a) true or false b) inductive
c) valid or invalid d) materially true or materially false
6. Validity of deductive argument depends on……………………………………
a) form of argument b) matter of argument
c) both form and matter d) truth of premises and conclusion
7. ……………………………………………….reveals the form of argument
a) truth or falsity of propositions b) use of symbols
c) true premises d) true conclusion
8. In the history of logic, ……………….………………….are two important stages of development.
a) Classical logic and Symbolic logic b) scientific and artistic
c) aesthetical and ethical d) valid and invalid
9. Classical logic is also called ………………………………………
a) symbolic logic b) mathematical logic
c) modern logic d) ancient logic
10. Ancient logic is also called…………………………………………..

a) symbolic logic b) mathematical logic
c) modern logic d) traditional logic
11. Symbolic logic is also called…………………………………….
a) traditional logic b) ancient logic
c) material logic d) mathematical logic
12. Mathematical logic is also called…………………………………….
a) traditional logic b) ancient logic
c) material logic d) modern logic
13. Symbolic logic originated in connection with
a) mathematical theory b) inductive method
c) evolution theory d) economic theory
14. Classical logic is related to symbolic logic as
a) sound to unsound b) embryo to adult organism
c) valid to invalid d) true to false
15. …………………had introduced into logic the important notion of a variable
a) Thales b) Socrates
c) Aristotle d) Bacon
16. …………………………is a symbol which can stand for any one of a given range of values
a) A logical constant b) A modifier
c) A logical connective d) A variable
17. The development of symbolic logic has been bound up with the development of ………………………
a) physics b) mathematics
c) chemistry d) biology
18. In 1910, in collaboration with A.N.Whitehead, Russell published ……………………,
a monumental work in which a system of symbolic logic is elaborated and made
to serve as the foundation of the whole of mathematics
a) Ideas b) Cartesian Meditations
c) The Mathematical Analysis of Logic d) Principia Mathematica
19. ………………………………………………….. is the form of the argument
a) The structure or pattern of the argument
b) the subject matter with which the argument deals
c) the truth or falsity of propositions
d) the material truth of premises and conclusion
20. A simple proposition is ……………………………………………………………….
a) a general proposition
b) one which contains other proposition as it's component
c) one which does not contain any other proposition as it's component
d) a molecular proposition
21. A compound proposition is ……………………………………………………….

a) an atomic proposition
b) a general proposition
c) one which does not contain any otherproposition as it's component
d) one which contains other proposition as it's component
22. Conjunction is a compound proposition in which the word ………… is used to connect simple statements.
a) 'not" b) 'unless'
c) 'or' d) "and"
23. 'Ramesh is either intelligent or hard working' is an example of …………………………
a) negation b) conjunction
c) disjunction d) implication
24. "If it rains, then the road will be wet" is an example for……………………………………….
a) conjunction b) negation
c) implication d) disjunction
25. A general proposition is …………………………………
a) a quantified statement b) a molecular proposition
c) a compound statement d) an atomic proposition
26. 'All Keralites are Indians' is an example for …………………………………………..
a) Universal negative proposition b) particular affirmative proposition
c) particular negative proposition d) Universal affirmative proposition
27. ' Some fruits are sweet' is an example for……………………………………….
a) Universal negative proposition b) particular affirmative proposition
c) particular negative proposition d)Universal affirmative proposition
28. ' Some flowers are not red' is an example for………………………………………..
a) particular affirmative proposition b) Universal affirmative proposition
c) particular negative proposition d) Universal negative proposition
29. ' No birds are fishes' is an example for ……………………………………………
a) particular affirmative proposition b) particular negative proposition
c) Universal negative proposition d) Universal affirmative proposition
30. Singly general proposition is a general proposition with ………………………………..
a) no quantifier b) one quantifier
c) one singular proposition d) two or more quantifiers
31. Multiply general proposition is a general proposition with ……………………………..
a) one quantifier b) no quantifier
c) two or more quantifiers d)two or more singular propositions
32. …………………………..is a branch of Symbolic Logic
a) classical logic b) traditional logic
c) Propositional logic d) mathematical logic
33. Quantification logic is also called……………………………………

a) Propositional logic b) predicate logic
c) classical logic d) ancient logic
34. ………………………………….analyses the internal structure of propositions
a) Propositional logic b) truth functional logic
c) sentential logic d) predicate logic
35. ……………………………………. does not analyse the internal structure of propositions
a) quantification logic b)predicate logic
c) propositional logic d) truth functional logic
36. The two types of statements dealt within propositional logic are ……………………
a) singular and general statements
b) universal affirmative and universal negative statements
c) particular affirmative and particular negative statements
d) simple and compound statements.
37. In a conditional, the component statement that follows the "if" is called ……………
a) the "consequent" b) the "antecedent"
c) the "conjunct" d) the "disjunct"
38. In a conditional, the component statement that follows the "then" is called ……….
a) the "antecedent" b) the "consequent"
c) the "disjunct" d) the "conjunct"
39. The two component statements of conjunction are called……………………………..
a) the "antecedents" b) "disjuncts"
c) "conjuncts" d) the "consequents"
40. The two component statements of disjunction are called ……………………………….
a) " conjuncts" b) the "consequents"
c) "disjuncts" d) the "antecedents"
41. When two statements are combined by using the phrase "if and only if", the resulting compound statement is called …………………………………………..
a) conditional statement b) bi-conditional statement
c) disjunctive statement d) conjunctive statement
42. Bi-conditional statement is also called ………………….
a) implication b) logical equivalence
c) material implication d) material equivalence
43. Conditional statement is also called………………………………….
a) implication b) material equivalence
c) logical equivalence d) conjunction
44. The phrase "if and only if" is used to express……………………………………………………….
a) sufficient condition b) both sufficient and necessary condition
c) necessary condition d) no condition
45. A compound proposition whose truth-value is completely determined by the truth-values of it's component statements is called …………………….

a) bi -conditional b)non- truth-functional
c) conditional d) truth-functional
46. …………………………. Symbol is used for conjunction
a) The dot “.” b) the tilde “ ~ ”
c) the vel ”v” d) the horse shoe” Ɔ”
47. ………………………….. Symbol is used for weak disjunction
a) the vel ”v” b) The dot “.”
c) the horse shoe” Ɔ” d) the tilde “ ~ ”
48. ………………………….. Symbol is used for negation
a) the horse shoe” Ɔ” b) the vel ”v”
c) the tilde “ ~ ” d) The dot “.”
49. …………………………..Symbol is used for bi –conditional
a) the tilde “ ~ ” b) ”v”
c) ” Ɔ” d) “ ≡ “
50. A conjunction is true if and only if ……………………………………….
a) at least one conjunct is true b) both of it’s conjuncts are true
c) both conjuncts are false d) none of the above
51. Inclusive or weak disjunction is false only in case
……………………………………………….
a) both of it’s disjuncts are false b)at least one disjunct is false
c) both disjuncts are true d) none of the above
52. The dot “ . ”symbol is……………………………………..
a) a truth-functional operator b) a statement variable
c) propositional function d) a truth-functional connective
53. The curl “~“ is ……………………………………………………..
a) propositional function b) a statement variable
c) a truth-functional connective d) a truth-functional operator
54. Gopal is either intelligent or hard working’ is an example for
…………………………
a) bi-conditional b) implication
c)inclusive or weak disjunction d) exclusive or strong disjunction
55. ‘Today is Thursday or Saturday’ is an example for………………………………..
a) implication b) exclusive disjunction
c) inclusive disjunction d) bi conditional
56. ’If you study well, then you will pass the examination’ is an example for ……………
a) implication b) bi-conditional
c) disjunction d) conjunction
57. A conditional statement asserts that in any case in which it’s antecedent is true, it’s consequent is ……………………………
a) not true b) true or false
c) false d) true also
58. For a conditional to be true the conjunction “ p.~q “ must be ……………….
a) true or false b) true

c) false d) undetermined.

59. ……………………….. is regarded the common meaning that is part of the meaning of all four different types of implication symbolized as “ If p , then q”

a) ~p . q b) ~p . ~q

c) ~(p . ~q) d) p . ~q

60. No real connection between antecedent and consequent is suggested by …………

a) decisional implication b) material implication

c) causal implication d) definitional implication

61. “it is not the case that the antecedent is true and the consequent is false” is symbolized as……………………………………….

a) ~(p . ~q) b) p . ~q

c) ~p . ~q d) ~p . q

62. ‘ q if p ‘ is symbolized as……………………………….

a) ‘q Ɔ p’ b) ‘p ≡ q’

c) ‘p v q’ d) ’ p Ɔ q ‘

63. “p only if q “ is symbolized as ……………………….

a) ‘p ≡ q’ b) ‘ p Ɔ q ‘

c) ‘q Ɔ p’ d) ‘p v q’

64. ’ The conjunction of p with the disjunction of q with r’, is symbolized as …….

a) (p vq) . r b) (p . q) v r

c) p . (q v r) d) p v (q . r)

65. ‘The disjunction whose first disjunct is the conjunction of p and q and whose second disjunct is r ‘ is symbolized as ………………………..

a) p v (q . r) b) (p vq) . r

c) p . (q v r) d) (p . q) v r

66. The negaton of A V B is symbolized as ………………

a) ~A v~B b) ~(A V B)

c) ~ A V B d) A V~B

67. ‘ A and B will not both be selected ’ is symbolized as ………………………..

a) ~(A . B) b) ~A v B

c) A V~B d) ~ A .~B

68. Ramesh and Dinesh will both not be elected.

a) A V~B b) ~ A .~B

c) ~(A . B) d) ~A v B

69. An argument can be proved invalid by constructing another argument of the same form with …………………….

a) false premises and false conclusion b) true premises and false conclusion

c) true premises and true conclusion d) false premises and true conclusion

70. …………………………… can be defined as an array of symbols containing statement
variables but no statements, such that when statements are substituted for statement variables- the same statement being substituted for the same statement variable throughout – the result is an argument
a) specific statement form b) A statement form
c) An argument form d) An argument
71. Any argument that results from the substitution of statements for statement variables in an argument form is called ………………………………
a) invalid argument b) valid argument
c) the specific form d) a " substitution instance" of that argument form
72. In case an argument is produced by substituting a different simple statement for each different statement variable in an argument form, that argument form is called ……………………
a) the "specific form" of that argument
b) a " substitution instance" of that argument form
c) valid argument
d) invalid argument
73. If the specific form of a given argument has any substitution instance whose premises are true and whose conclusion is false, then the given argument is.
a) valid b) invalid
c) valid or invalid d) sound
74. Refutation by logical analogy is based on the fact that any argument whose specific form is an invalid argument form is ………………………..
a) sound b) a contradiction
c) an invalid argument. d) a valid argument
75 . The valid argument form

P v q

~P

$\therefore$ q

Is called……………………………………………
a) Modus ponens b) Modus tollens
c) Disjunctive syllogism d) Hypothetical syllogism
76. Name the valid argument form

P Ɔ q

P

$\therefore$ q

a) Disjunctive syllogism b) Hypothetical syllogism
c) Modus tollens d) Modus ponens
77. Name the valid argument form

P Ɔ q

~q

. ˙ . ˜P
a) Hypothetical syllogism b) Disjunctive syllogism
c) Modus ponens d) Modus tollens
78. Fallacy of Affirming the Consequent- is symbolized as
a) P Ↄ q b) P Ↄ q c) P Ↄ q d) P Ↄ q

˜ q p q˜P

. ˙ . ˜P . ˙ . q . ˙ . P . ˙ . ˜ q
79. Fallacy of Denyingthe Antecedent- is symbolized as
a) P Ↄ q b) P Ↄ q c) P Ↄ q d) P Ↄ q

p˜ q˜P q

. ˙ . q . ˙ . ˜P . ˙ . ˜ q . ˙ . P
80. ………………………… is any sequence of symbols containing statement variables but
no statements, such that when statements are substituted for the statement variables-the same statement being substituted for the same statement variable throughout- the result is a statement
a) An Argument form b) specific form of argument
c) A statement form d) Argument
81. 'statement form from which the statement results by substituting a different simple statement for each different statement variable' is called ……………………..
a) the specific form of a given argument
b) tautology
c) contradiction
d) the specific form of a given statement
82. A statement form that has only true substitution instances is called ……………………
a) a " tautologous statement form " or a " tautology"
b) a self-contradictory statement form or contradiction
c) A contingent statement form
d) specific statement form
83. Statement forms that have both true and false statements among their substitution instances are called ……………………………………………..
a) tautologous statement forms b) contingent statement forms
c) self-contradictory statement forms d) specific statement forms
84. Two statements are ………………… when their material equivalence is a tautology
a) self-contradictory b) contingent
c) logically equivalent d) materially implying
85. …………………. statements have the same meaning and may be substituted for one another
a) Materially equivalent b) Logically equivalent

c) Tautologous d) self-contradictory

86.~ (p v q) is logically equivalent to ………………………………..

a)~p .~q b)~p v~q

c)~p v q d) p v~q

87. .~ (p . q) is logically equivalent to …………………………………..

a) p v~q b)~p .~q

c)~p v~q d)~p v q

88. An argument form is valid if and only if it's expression in the form of a conditional statement is ……………

a) a contradiction b) a biconditional

c) a tautology d) material implication

89. "If a statement is true, then it is implied by any statement whatever" is symbolized as

a) p Ↄ (p Ↄ q) b) p Ↄ (q Ↄ p)

c)~p Ↄ (P Ↄ q) d)~p Ↄ (q Ↄ p)

90. " If a statement is false, then it implies any statement whatever"

a)~p Ↄ (P Ↄ q) b) p Ↄ (p Ↄ q)

c)~p Ↄ (q Ↄ p) d) p Ↄ (q Ↄ p)

91. ………………………… is defined as any argument that is a substitution instance of an elementary valid argument form

a) An elementary valid argument b) Formal proof

c) Tautology d) Contradiction

92. The rule of Hypothetical Syllogism (H.S) is symbolized as

a) P Ↄ q b) P Ↄ q c) P Ↄ q d) P Ↄ q

P q Ↄ r~q~p

.˙. q .˙. p Ↄ r .˙. ~p .˙. ~q

93. The rule of Absorption (Abs) is symbolized as

a) p.q b) P Ↄ q c) p d) p

.˙. p .˙. P Ↄ (p . q) .˙. p v q q

.˙. p . q

94. The rule of Simplification (Simp) is symbolized as

a) P Ↄ q b) P . q c) P d) p

.˙. P Ↄ (p . q) .˙. p .˙. p v q q

.˙. p . q

95. The rule of Addition is symbolized as

a) p b) p c) P d) p . q
q q . ˙ . p v q . ˙ . p
. ˙ . p v q . ˙ . p . q
96. The rule of Conjunction (Conj) is symbolized as
a) p . q b) p c) p d) P
. ˙ . p . ˙ . p v q q q
. ˙ . p v q . ˙ . p . q
97. Name the rule of inference

~(P . Q) ≡ (~P V~Q)
a) Commutation (Com)- b) Association (Assoc)-
c) De Morgan’s Theorem (De M) d) Distribution (Dist)
98. Name the rule of inference
(p v q) ≡ (q v p)
a) Commutation (Com)- b) De Morgan’s Theorem (De M)
c) Distribution (Dist) d) Association (Assoc)-
99. Name the rule of inference
[p v(q v r)] ≡ [(p v q) v r]
a) De Morgan’s Theorem (De M) b) Distribution (Dist)
c) Association (Assoc)- d) Commutation (Com)-
100. Name the rule of inference
[p . (q v r)] ≡ [(p . q) v (p. r)]
a) Association (Assoc)- b) Distribution (Dist)
c) De Morgan’s Theorem (De M) d) Commutation (Com)
101. Name the rule of inference

P ≡~~p
a) Transposition (Trans)- b) Material Implication (Impl)-
c) Double Negation (D .N)- d) Tautology (Taut)-
102. Name the rule of inference

(P Ɔ q) ≡ (~Q Ɔ~P)
a) Double Negation (D .N)- b) Tautology (Taut)-
c) Transposition (Trans)- d) Material Equivalence (Equiv)-
103. Name the rule of inference

(P Ɔ q) ≡ (~P v q)
a) Material Implication (Impl)- b) Transposition (Trans)-
c) Material Equivalence (Equiv)- d) Exportation (E x p)-
104. Name the rule of inference
(P ≡ q) ≡ [(p Ɔ q) . (q Ɔ p)]
a) Material Implication (Impl)- b) Transposition (Trans)-
c) Tautology d) Material Equivalence (Equiv)-
105. Name the rule of inference

$[(P \cdot Q) \supset r] \equiv [p \supset (q \supset r)]$
a) Transposition (Trans)- b) Material Equivalence (Equiv)-
c) Material Implication (Impl)- d) Exportation (E x p)-
106. Name the rule of inference

$\sim (P \vee Q) \equiv (\sim P \cdot \sim Q)$
a) Material Implication (Impl)- b) De Morgan’s Theorems (De M)
c) Exportation (E x p)- d) Distribution (Dist)
107. Name the rule of inference
$(p \cdot q) \equiv (q \cdot p)$
a) Commutation (Com)- b) Distribution (Dist)
c) Exportation (E x p)- d) Transposition (Trans)-
108. Name the rule of inference
$[p \cdot (q \cdot r)] \equiv [(p \cdot q) \cdot r]$
a) Exportation (E x p)- b) De Morgan’s Theorems (De M)
c) Association (Assoc)- d) Distribution (Dist)
109. Name the rule of inference

$(P \equiv q) \equiv [(p \cdot q) \vee (\sim P \cdot \sim Q)]$
a) Exportation (E x p)- b) Material Equivalence (Equiv)-
c) Distribution (Dist) d) Material Implication (Impl)-
110. Name the rule of inference
$p \equiv (p \cdot p)$
a) Material Implication (Impl)- b) Commutation (Com)-
c) Tautology (Taut)- d) Association (Assoc)-
111. ……………………………………. are defined as expressions which contain individual
variables and become propositions when their individual variables are replaced by individual constants
a)Truth-functions b) Propositional functions
c) quantifiers d) statement variables
112. The process of obtaining a proposition from a propositional function by substituting a constant for a variable is called …………………………………
a) quantification b) deduction
c) instantiation d) generalization
113. General propositions can be regarded as resulting from propositional functions by a process called
a) instantiation b) substitution
c) deduction d) quantification
114. The phrase ‘Given any x’ is called …………………………………….
a) a propositional function b) a universal quantifier
c) truth-function d) an existential quantifier
115. Universal quantifier is symbolized as …………
a) ‘(x)’ b) ′(∃x)’

c) ‘ X’ d) ‘ ∃x’
116. The phrase ‘ there is at least one x such that’ is called ………………………………
a) a universal quantifier b) a propositional function
c) an existential quantifier d) truth-function
117. An ‘existential quantifier’ is symbolized as ,
a) ‘ ∃x’ b) ‘(x)’
c) ‘ X’ d) (∃x)
118. ‘Everything is mortal ‘ is symbolized as …………
a) (∃x)~M x b) (∃x) M x
c) (x) M x d) (x)~ M x
119. ‘ Something is mortal’ is symbolized as
a) (x) M x b) (∃x)~M x
c) (x)~ M x d) (∃x) M x
120. ‘ Nothing is mortal’ is symbolized as
a) (x)~ M x b) (∃x) M x
c) (∃x)~M x d) (x) M x
121. ‘Something is not mortal’ is symbolized as
a) (x) M x b) (∃x)~M x
c) (∃x) M x d) (x)~ M x
122. The negation of (x) M x is logically equivalent to……………………………….
a) (x)~ M x b) (∃x) M x
c) (∃x)~M x d) (x) M x
123. The negation of (x)~ M x is logically equivalent to……………………………….
a) (∃x)~M x b) (x)~ M x
c) (x) M x d) (∃x) M x
124. The negation of (∃x)~ M x is logically equivalent to ………………….
a) (x) M x b) (∃x)~M x
c) (x)~ M x d) (∃x) M x
125. The negation of (∃x) M x is logically equivalent to ……………………….
a) (∃x)~M x b) (x)~ M x
c) (∃x) M x d) (x) M x
126. ‘ All fruits are ripe’ is symbolized as

a) $(\exists x)(F x \,.\, R x)$ b) $(\exists x)(F x \,.\, {\sim} R x)$

c) $(x)(F x \supset R x)$ d) $(x)(F x \supset {\sim} R x)$

127. ‘ No fruits are ripe ‘ is symbolized as

a) $(x)(F x \supset R x)$ b) $(\exists x)(F x \,.\, {\sim} R x)$

c) $(x)(F x \supset {\sim} R x)$ d) $(\exists x)(F x \,.\, R x)$

128. ‘Some fruits are ripe’ is symbolized as

a) $(\exists x)(F x \,.\, {\sim} R x)$ b) $(\exists x)(F x \,.\, R x)$

c) $(x)(F x \supset {\sim} R x)$ d) $(x)(F x \supset R x)$

129. ‘Some fruits are not ripe’ is symbolized as

a) $(x)(F x \supset R x)$ b) $(x)(F x \supset {\sim} R x)$

c) $(\exists x)(F x \,.\, R x)$ d) $(\exists x)(F x \,.\, {\sim} R x)$

130. As per modern interpretation of traditional subject-predicate propositions, A and O propositions are …………………..

a) contraries b) sub-contraries

c) sub alterns d) contradictories

131. As per modern interpretation of traditional subject-predicate propositions, E and I propositions are ………………………………

a) Contradictories b) sub alterns

c) sub-contraries d) contraries

132. The universal quantification of a propositional function is true if and only if ……...

a) at least one substitution instance is true

b) all of it’s substitution instances are false

c) all of it’s substitution instances are true

d) it has both true and false substitution instances

133. The relation between the general propositions $(x)\, Mx$ and $(\exists x)\, {\sim}Mx$ is ……………

a) contrary b) contradiction

c) sub contrary d) sub altern

134. The relation between the general propositions $(x)\, {\sim}Mx$ and $(\exists x)\, Mx$ is ………..……

a) contradiction b) sub contrary

c) sub altern d) contrary

135. The relation between the general propositions $(x)\, Mx$ and $(x)\, {\sim}Mx$ is ……..………

a) sub contrary b) contradiction

c) sub altern d) contrary

136. The relation between the general propositions $(\exists x)\, Mx$ and $(\exists x)\, {\sim}Mx$ is …………

a) contrary b) sub altern

c) sub contrary d) contradiction

137. If $(x)\, Mx$ is true, then $(x)\, {\sim}Mx$ is …………………

a) true b) false

c) true or false d) valid
138. If (x) Mx is true, then (∃x) Mx is …………………..
a) false b) true
c) valid d) true or false
139. If (x) Mx is true, then (∃x)~Mx is …………………………..
a) true or false b) true
c) false d) valid
140. If (x) Mx is false, then (x)~Mx is …………………
a) valid b) true
c) true or false d) false
141. If (x) Mx is false, then (∃x) Mx is …………………..
a) true or false b) false
c) valid d) true
142. If (x) Mx is false, then (∃x)~Mx is …………………………..
a) true b) valid
c) false d) true or false
143. If (x)~Mx is true, then (∃ x) Mx is …………………
a) true or false b) false
c) true d) valid
144. If (x)~Mx is true, then (∃ x)~Mx is …………………
a) valid b) true
c) true or false d) false
145. If (x)~Mx is true, then (x) Mx is …………………
a) false b) true or false
c) true d) valid
146. If (x)~Mx is false, then (x) Mx is …………………
a) true or false b) true
c) valid d) false
147. If (x)~Mx is false, then (∃ x) Mx is …………………
a) false b) valid
c) true d) true or false
148. If (x)~Mx is false, then (∃ x)~Mx is …………………
a) true or false b) true
c) false d) valid
149. If (∃ x) Mx is true, then (x) Mx is …………………
a) false b) valid
c) true d) true or false
150. If (∃ x) Mx is true, then (x)~Mx is …………………
a) valid b) true or false
c) false d) true
151. If (∃ x) Mx is true, then (∃ x)~Mx is …………………
a) true b) false
c) true or false d) valid

152. If (∃ x) Mx is false, then (x) Mx is …………………
a) true or false b) valid
c) true d) false
153. If (∃ x) Mx is false, then (x)~Mx is …………………
a) valid b) false
c) true or false d) true
154. If (∃ x) Mx is false, then (∃ x)~Mx is …………………
a) true b) true or false
c) valid d) false
155. If (∃ x)~Mx is true , then (x) Mx is …………………
a) false b) true or false
c) valid d) true
156. If (∃ x)~Mx is true , then (x)~Mx is …………………
a) true b) false
c) true or false d) valid
157. If (∃ x)~Mx is true, then (∃ x) Mx is …………………
a) valid b) true or false
c) false d) true
158. If (∃ x)~Mx is false, then (x) Mx is …………………
a) true b) true or false
c) valid d) false
159. If (∃ x)~Mx is false, then (x)~Mx is …………………
a) true b) true
c) false d) valid
160. If (∃ x)~Mx is false, then (∃ x) Mx is …………………
a) true b) false
c) valid d) true or false
161. If (x) (H x Ɔ Mx) is true, then (∃ x) (H x .~Mx) is …………………
a) true b) true or false
c) false d) valid
162. If (x) (H x Ɔ Mx) is false , then (∃ x) (H x .~Mx) is …………………………
a) valid b) true
c) true or false d) false
163. If (x) (H x Ɔ~Mx) is true, then (∃ x) (H x . Mx) is……………………….
a) false b) valid
c) true d) true or false
164. If (x) (H x Ɔ~Mx) is false , then (∃ x) (H x . Mx) is ……………………….
a) true or false b) false
c) valid d) true
165. If (∃ x) (H x . Mx) is true, then (x) (H x Ɔ~Mx) is …………………
a) true b) true or false
c) false d) valid
166. If (∃ x) (H x . Mx) is false , then (x) (H x Ɔ~Mx) is …………………

a) valid b) true
c) true or false d) false
167. If (∃ x) (H x .~Mx) is true, then (x) (H x Ɔ Mx) is ………………..
a) false b) valid
c) true d) true or false
168. If (∃ x) (H x .~Mx) is false , then (x) (H x Ɔ Mx) is ………………..
a) valid b) false
c) true or false d) true

ANSWER KEYS

1.a
2. c
3. c
4. d
5. c
6. a
7. b
8. a
9. d
10. d
11. d
12. d
13. a
14. b
15. c
16. d
17. b
18. d
19. a
20. c
21. d
22. d
23. c
24. c
25. a
26. d
27. b
28. c
29. c
30. b
31. c

32. c
33. b
34. d
35. c
36. d
37. b
38. b
39. c
40. c
41. b
42. d
43. a
44. b
45. d
46. a
47. a
48. c
49. d
50. b
51. a
52. d
53. d
54. c
55. b
56. a
57. d
58. c
59. c
60. b
61. a
62. d
63. b
64. c
65. d
66. b
67. a
68. b
69. b
70. c
71. d
72. a
73. b
74. c

75. c
76. d
77. d
78. c
79. c
80. c
81. d
82. a
83. b
84. c
85. b
86. a
87. c
88. c
89. b
90. a
91. a
92. b
93. b
94. b
95. c
96. d
97. c
98. a
99. c
100. b
101. c
102. c
103. a
104. d
105. d
106. b
107. a
108. c
109. b
110. c
111. b
112. c
113. d
114. b
115. a
116. c
117.d

118. c
119. d
120. a
121. b
122. c
123. d
124. a
125. b
126. c
127. c
128. b
129. d
130. d
131. a
132. c
133. b
134. a
135. d
136. c
137. b
138. b
139. c
140. c
141. a
142. a
143. b
144. b
145. a
146. a
147. c
148. a
149. d
150. c
151. c
152. d
153. d
154. a
155. a
156. c
157. b
158. a
159. c
160. a

161. c
162. b
163. a
164. d
165. c
166. b
167. a
168. d