Model Question paper
First Formative /Mid- term Examination
Subject: Logic

Date: Roll no:
Time: 1 hour.   Max Marks:20

Instructions: All questions are compulsory and answers should be brief up to the point.
              Figures at the right indicate full marks.
              Question 1 -2 in Part A are MCQ'.
              Choose the correct alternative and rewrite the answer.
Question 3- 4 in Part B are very short answer questions carrying two marks
each. Answer to each question should not exceed 30 words.
              Question 5- 7 are to be solved neatly.
Question 8 of Part D not to exceed 100 words.

          Part- A
Q1.. An argument in which an individual personal bias is taken into account is
    _____.   (01)
   (Simple enumeration, analogy, scientific induction)

Q2.Why is Induction known as leap in the dark.?   (01)

          Part- B

Q3. Give two points of distinction between deduction and induction.   (02)

Q4.Explain 'low degree of probability' as a characteristic of Simple Enumeration (02)

          Part- C
Q5.Determine validity of the following argument by using Shorter Truth Table
method   (03)
    1. (A→B) ● (C → D)
    2. ~A → C / ∴ ~ D v B.

Q6 Test validity of the following argument with Truth Tree method.   (03)
     Q v P
    (F v Q) →P /∴ ~ Q →(P v R)

          Part-D
Q7. Determine if the following statement is a tautology by using Truth Tree
method.   (04)
        ~ [(~p v q)→ r] ●(p v ~q)
.

Q8. State the first four steps of Scientific Induction.   (04)
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Model Question paper
Second Formative   /First- term Examination
Subject: Logic

Date: Roll no:
Time: 1 hour.   Max Marks:20

Instructions: All questions are compulsory and answers should be brief up to the point.
Figures at the right indicate full marks.
Question 2 in Part A is MCQ'.
Choose the correct alternative and rewrite the answer.
Question 3- 4 in Part B are very short answer questions carrying two marks
each. Answer to each question should not exceed 30 words.
Question 5- 8 are to be solved neatly.

                  Part- A
Q1.What is instantiation.? State in one line   (01)

Q2.Individual constants are represented as _____.   (01)
(a-w, A-Z)
                  Part- B

Q3. What is instantiation?   (02)

Q4.Write a note on ' propositional function'.   (02)

                  Part- C
Q5.Represent the following propositions with Venn diagrams.   (03)
    1. Universal Instantiation.
    2. Existential Quantification.
    3. Complement of a Class.

 Q6. Symbolize the following expressions using propositional
functions and quantifiers.
  1. All items are of gold.
2..Not a single chance was lost.
3.Almost all currency was exchanged.

                  Part-D
Q7. Give Contrary opposite of the following.   (04)
    1. Generally parents are protective.
    2. Few articles are informative.
    3. Almost all natural products are effective.
    4. None of the employees objected.
.

                                                                         P.T.O
Q8. Construct formal proof of validity for the following.   (04)
    1. All painters are artists.
    2. There are painters.
        Therefore there are artists.

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Std XII-
Model Question Paper
Logic
Final Exam
New Pattern 2017

Instructions:
   1. All questions are compulsory and answers should be brief up to the point.
   2. Figures at the right indicate full marks.
   3. Part A is one mark each. For MCQ's in Part A choose the correct alternative and rewrite the answer.
   4. Question 09- 16 in Part B are very short answer questions carrying two marks each. Answer to each question should not exceed 30 words.
   5. For Q17 to Q24 solve carefully according to instructions given. Each question carries three marks.
   6. For Q25 symbolize and then determine validity.
   7. Question 26 – 28 in Part D are to be solved carefully. Each question carries four marks.
   8. Question 29 - 32 of Part D not to exceed 100 words.

         Part –A
      (08)

Q 1. When a decision procedure is stated to yield answers in limited number of steps, it means it must be _____
(Reliable, finite, mechanical)

Q2. What is instantiation.
Q3. In _____ there is no analysis of properties.
(analogy, scientific induction, simple enumeration)
Q4. The word ,most, is reduced to _____ proposition.
(A, E, I, O)
Q5. Why is Shorter truth table a decision procedure.
Q6. Give one point of distinction between Direct and Indirect hypothesis.
Q7. Why is simple enumeration based on low degree of probability.
Q8. Why is ad-hoc hypothesis not a satisfactory solution to a problem.
Part –B   (16)
Q9. What is Principle of uniformity of nature?

Q10. Give two points of distinction for Free and Bound variables.
Q11. What is Independent variable?
Q12. Explain Choice of significant material as a characteristic of observation.
Q13 What is Ad- Hoc hypothesis?
Q14. Explain 'Consilience of Inductions'.
Q15. Give two points of distinction between Contrary and Sub- Contrary.
Q 16. State the Predicate variables.
Part –C   (24)

 Q17.   Construct Shorter Truth Table to determine validity
the following:
B v M
B v T /∴M

 Q 18 Construct Shorter Truth Table to determine if the
following is a tautology:
p → [~p → (p v ~p)]

Q 19 Construct Truth Tree to determine if the following is a tautology:

P v (P v Q)

Q 20 Construct Truth Tree to determine validity of the following:

(L ● M) → P

 ~ P v Q

Q / ∴ ~L v ~M

Q 21.

Construct Conditional Proof (C.P) to determine validity of the following:

~ A v B

~ B v M / ∴ ~ M → ~A

Q22.

Construct Conditional Proof (C.P) to determine if the following is tautology :

(R → M) → (~M → ~R)

Q23

Construct Indirect Proof (I.P) to determine if the following is tautology :

L → (M v~ M)

Q24

Construct Indirect Proof (I.P) to determine if the following is valid :

P v (Q ● ~E)

(C ●Q)→ E / ∴ C → P

Part –D

(32)

Q25. Construct Formal Proof for the following using the constants given in the bracket:

If I keep the lamp burning , then I can study hard. If either I do not keep the lamp burning or I go to bed early , then I shall fail. I cannot study hard . Therefore I shall not keep the lamp burning and shall fail. (I, S, B, F)

Q 26

Construct Conditional proof of validity for the following:

(x)[Hx → (Fx ● Cx)]

(x) [Mx → (Fx ● Cx)]   / ∴ (x)(Hx →Cx)

Q 27 Symbolize the following expressions using propositional functions and quantifiers.

1.All items are of gold.
2.Not a single chance was lost.
3.Almost all currency was exchanged.
4.Some ideas are not innovative.

Q 28

Express the following in Venn diagram and state an example
for each:
Existensial negative.
Product of classes.
Universal negative.
Class of Members.
Q29 State the first four steps of Scientific Induction.
Q 30.Explain Fallacy of Non Observation.
Q 31State characteristics of hypothesis.
Q32 Explain Conditions of Sound Analogical arguments.

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