

2015

Time : 3 hours

Full Marks : 80

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer from both the Groups as directed.

Group – A

(Objective-type Questions)

Answer all questions.

1. Choose the correct answer of the following :
2×10 = 20

(a) _____ is called the father of Artificial Intelligence.

- (i) James C Gosling
- (ii) Dennis Ritchie
- (iii) Alan Turing
- (iv) Isaac Newton

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(Turn over)

(b) In AI _____ is a combination of data structures and interpretive procedures.

- (i) Knowledge
- (ii) Meta-knowledge
- (iii) Artificial knowledge
- (iv) Performance

(c) The _____ approach uses the knowledge of mathematics and engineering.

- (i) Rationalist
- (ii) Top-down
- (iii) Bottom up
- (iv) Pusp-pop approach

(d) We also use knowledge about what we know, called _____.

- (i) Meta-knowledge
- (ii) Performance knowledge
- (iii) Standard knowledge
- (iv) Specific knowledge

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(2)

Contd.

(e) The Artificial Intelligence is concerned with designing intelligent computer systems that exhibit intelligent characteristics expressed by _____.

- (i) Functional Behaviour
- (ii) Human Behaviour
- (iii) Human brain
- (iv) Statistical analysis

(f) _____ includes what we know about our own performance as cognitive processors.

- (i) Meta-knowledge
- (ii) Performance knowledge
- (iii) Standard knowledge
- (iv) Specific knowledge

(g) The goals of AI systems can be described in terms of cognitive tasks like :

- (i) Recognizing objects
- (ii) Answering questions

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(3)

(Turn over)

- (iii) Manipulating robotic devices
 - (iv) All of the above
- (h) State whether the following is true or false :
- (a) AI is used in diverse fields like space exploration, robotics
 - (b) AI is used for military purpose
- (i) a – True, b – False
 - (ii) a – True, b – True
 - (iii) a – False, b – False
 - (iv) a – False, b – True
- (i) _____ is computerized advice-giver, that is capable of reasoning but which is usually confined to a rather narrow field of knowledge.
- (i) Expert system
 - (ii) Knowledge system
 - (iii) Common system
 - (iv) Communication System

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(4)

Contd.

- (i) _____ involves relating something new to what we already know in a psychologically complex way.
- (i) Knowledge Acquisition
 - (ii) Knowledge retrieval
 - (iii) Reasoning
 - (iv) Meta-level reasoning

Group – B

(Long-answer type Questions)

Answer any **four** questions of the following :

15×4 = 60

2. (a) What is an artificial Intelligence Neural networks ?
- (b) What are the various areas where artificial intelligence can be used ?
3. (a) What is alternate, artificial, compound and natural key ?
- (b) What is agent in artificial Intelligence ?

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(5)

(Turn over)

4. (a) What is a Heuristic Functions ?
(b) What is "Generally" in Artificial Intelligence ?
5. (a) Mention the differences between breadth first search and best first search in artificial intelligence.
(b) What is FOPL ? Explain its role in Artificial Intelligence.
6. (a) In "Artificial Intelligence" where you can use the Bayes — rule ?
(b) For building a Bayes model how many terms are required ?
7. (a) While creating Bayesian Network what is the consequences between a node and its predecessors ?
(b) In top-down inductive learning methods how many literals are available ? What are they ?

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(6)

Contd.

8. (a) What is Hidden Markov Model (HMM) is used ?
(b) In artificial intelligence, what do semantic analysis used for ?
9. (a) What is meant - by compositional semantics ?
(b) Which algorithm in 'Unification and Lifting' takes two sentences and returns a unifier ?



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(7)

BCA(III)/21A/15