Faculty of Computer & Information Sciences
Ain Shams University
Course Code: HUM 113
Course Name: Computational Linguistics
Exam: (MidTerm) 16/11/2017
Year: (1st term) 1st undergraduate

Instructors: Dr. Dina Khattab
Offering Dept: Humanities
Academic year: 2017-2018
Duration: 50 Minutes
Total Grade: 10 Marks

Version (C)
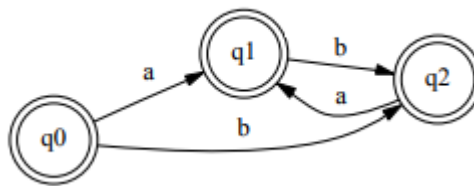
Name:	Section:

Answer the following Three questions:

Question 1:	Marks: 3

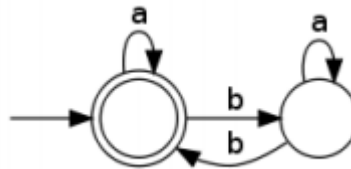What is the language recognized by the following FSA over the alphabet Σ = {a, b}

The language accepted by the FSA is the set of strings of a's and b's which neither have the substring 'aa' or 'bb'

Question 2:	Marks: 3

Write down the regular expression representing the following FSA over the alphabet Σ = {a, b}

a* | (a* b a* b a*)*

Question 3:	Marks: 4

Given the following CFG, State if the sentence **"The flight includes the fish meal"** is valid or not.
N: {S, NP, NOM, VP, Det, Noun, Verb}
Σ : { a, the, man, book, flight, meal, fish, includes, reads}
S : {S}
P:
S → NP VP
NP → Det NOM
NOM → Noun | Noun NOM
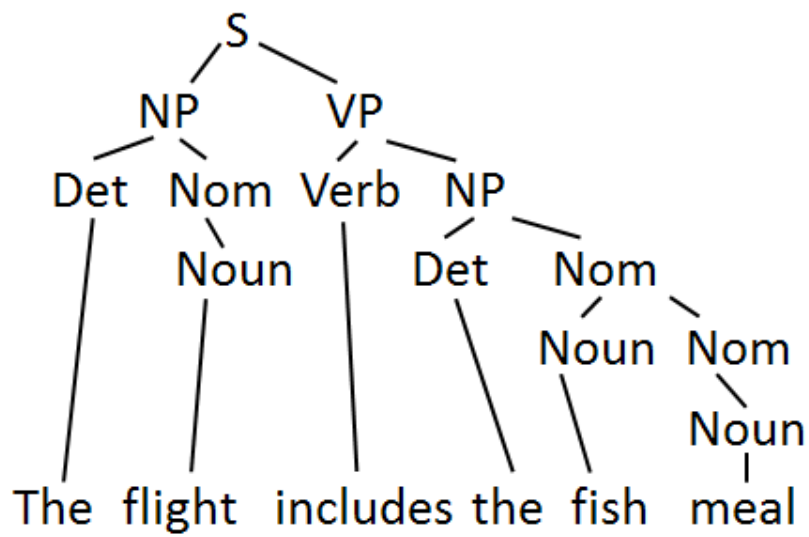VP → Verb | Verb NP
Det → a | the
Noun → book | flight | meal | man | fish
Verb → includes | reads

the sentence is valid

With Best Regards,
Dr. Dina Khattab