

**DUBAI INTERNATIONAL ACADEMIC CITY, DUBAI
FIRST SEMESTER 2020 – 2021
DEPARTMENT OF COMPUTER SCIENCE**

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COURSE : Computer Network (CS F303)

COMPONENT : End Sem Lab Exam

DATE : 16th May 2021 (Sunday)

WEIGHTAGE : 10% (20 Marks)

DURATION : 2:00 pm -3:20 pm

Note: Please write down any assumptions that you make.

Things to upload on classroom: Client and server program code, Output screen shots, For Wireshark (Screenshots of captured packets, answers of two questions on separate sheet).

Q 1	Create a connectionless server using Java Socket Primitives, who is performing following operations requested by the clients, (12 marks) <ul style="list-style-type: none">(i) The number is perfect number or not. If sum of the factors (including 1 and excluding the number itself) is same as that of original number then the number is said to be perfect number.(ii) The number is 'neon' number or not. If the sum of the digits of square of the number is the number itself, then the number is said to be neon. For example- 9, Square is 81 and 8+1=9.(iii) The number is 'Armstrong' number or not. If sum of cubes of digits is equal to original number then the number is said to be Armstrong. For example- Number 153 is Armstrong number $(1)^3+(5)^3+(3)^3=153$.
Q 2	Capture the ARP request and reply message transmitted from your machine during accessing any web page and answer the following questions, (8 marks) <ul style="list-style-type: none">(i) What is the physical address of source and destination address in Ethernet frame?(ii) Analyze the ARP request and reply packets and write values of all nine fields of ARP header. Also write significance of each in one sentence.

***** ALL THE BEST *****