Department of Electrical, Electronics & Telecom Engineering
UET (Lahore) Faisalabad Campus

Student Name: _____ Reg. No. _____

EE-213 Analog & Digital Circuits

2021

Final-Term

Time Allowed: 90 Minutes
Total Marks: 40

- All the related parts of a question must be solved together.
- Start solution of every new part on a new page.

Q.1	A	If gain of amplifier has -60dB gain what is the actual gain of the amplifier in decimal?	2	CLO2	PLO2
	B	The amplifier shown in fig.1 has midland gain is $\|V_L\|/\|V_S\|$ equal to 90. Find (i) the voltage gain $\|V_L\|/\|V_i\|$ (ii)The lower cut off frequency (iii) the voltage gain $\|V_L\|/\|V_S\|$, in dB, at the cut off frequency.	10		
Q.2	A	The transistor in fig.3 has a low cutoff frequency β of 120, $re = 20$ and $ro = 100k$. The inter electrode capacitances are $c_{be} = 40pF$, $c_{bc} = 1.5pF$ and $c_{ce} = 1.5pF$. There is wiring capacitance equal to 4 pF at input and 2pF at output. Find approximate upper cutoff frequency.	10	CLO2	PLO2
	B	Characterize the astable multivibrator shown in fig.2 establish the frequency range	8		
Q.3	A	Define Barkhausen Criterion for oscillators, draw the circuit diagram for RC phase shift oscillator	4	CLO3	PLO3
	B	Define and draw the circuits diagram for Wein-Bridge and Colpitts oscillators	6		

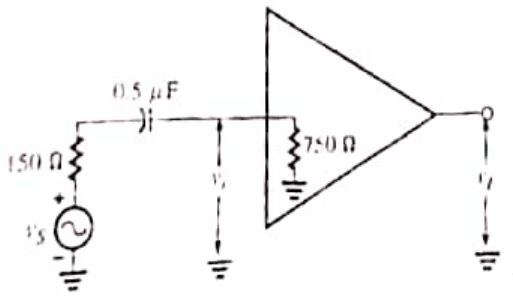

Fig.1

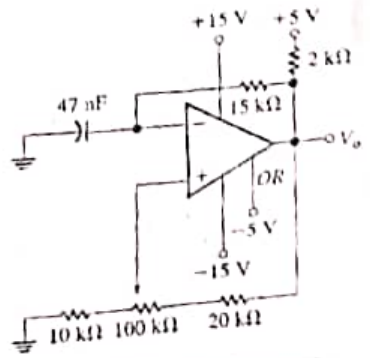

Fig.2

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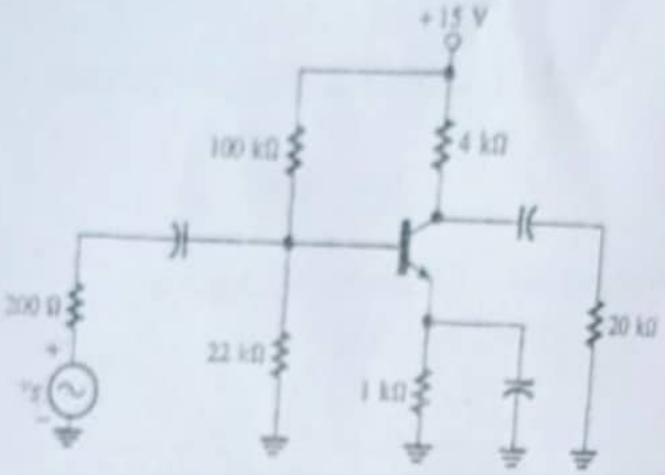

Fig.3