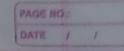
P	AG	10	21
O	Al		1

	A company of the comp
(B)	Huffman Encoding.
	,
(1)	ALGORITHM
->	def compress (text):
	-> freq= Counta(text)
	-> If freq == 0:
	print ("Empty File")
	r.i. one rooming and
-	-> htnee = huffmon-ree (freg)
	-> val = codes (horee)
	AT A TORRESS ASSESSED TO MOTOR ASSESSED TO
->	det huftman-mee (freg): -> heapq. heapipf (freg)
	-> heapq heapthy (freg)
	-> while heap.size 71:
	L = heapq heappop ()
	r=heapg heappop()
	p = Node (L. freq + r. freq)
	p. left = l
	p. night=r
	-> return root
\Rightarrow	def codes (root):
	-) If Horoot == None;
	refun volg mon TEM
103	else mysica binutina A legiona
o Spring	Coded Front character Val
	Now was could be a control to the control with the control was a control to the c
2010000	-> codes (noot left, val +10', coded)
	> wodes (not right, Valf') woded)



def calc ()

og_size = len (original - text) *8

comp_size = len (compressed - text).

rapo = og-size/wmp-size,

neturn ratio

Function to read Contents !!

with open (path, 12'd) as file: 1

text = file read()

-	PAGE NO.: DATE / /
(2	Testcases.
	Positive Totzase.
	Constanges we de
	PDF File: (1) will only only only only
	Original content: This is a pdf file
	Comprend consect: 0101100101
	compremion ratio: 1.9
	(pop) en nompri en del 6-
	WORD DOC (SONOH) OS DOS = JAV -
	Original content: This is a word tile
	Compressed Content (010001101110110)
	Compremion rotional 7 pages of a
	Straff 10
_	HTML File 21 T 9512 903N SLING C-
	original contents This is a HTML file
	Compressed file: 0001101
-	Compression rapid 1. B. 1.
	1 - 1- 1- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
_	TXT File months
	Original Content: This is a text file.
	Comprend content: 0011 0101
	comprembin ratio: 1.9
	(0.00) 1000 Feb.
	() () () () () () () () () ()
_	MST Question
	original: A wonderful sevening has taken postero
	of my soul like these Sweet mornings of
	Spring which I enjoy with whole heard.
	I am alone and feel the charm of existences in spot
	Commencel: 0/110011100
	1 (May 1) May 10 1 () 4 () 5

1-1-1

PAGE NO .: Negative Testzases. moment file path I in Display so No such file File is empty

Display & The file is empty Not a PDF, HTML, DOCX, TXT File

Display > Unsupported File Type. Library not installed Tot present of

3.) Time complexity.

Huffman encoding uses a neap data structure.

Initialising a heap takes O(n) time Reading a file takes o(n) time Operations on heap take O (nlogn) time Calculating compression ration takes O(1) time T(n) = h+n+n logn

= 2n +n logh T(n) = O(nlogn)