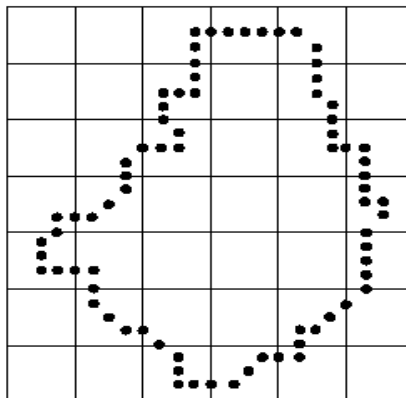


15EC72 – Digital Image Processing

Assignment-III

- Note: i) Write the assignment in the assignment book.
 ii) Answer ***Ten Questions*** as per the sequence given in table (refer 2nd and 3rd pages).
 iii) Submit the assignment on or before 11.00 AM, Wednesday, 20/11/2019

- A. Briefly explain the RGB, CMY and HSI colour models.
- B. Write a short note on sensitivity of cones in the Human Eye w.r.t. color
- C. Briefly explain Intensity slicing technique of pseudocolor image processing.
- D. Briefly explain Gray level to colour transformation technique of pseudocolor image processing.
- E. Explain the process of generating RGB image
- F. Write the formulae used for converting RGB to HIS. Using these formula find the value of HSI for the given RGB = (0.683, 0.1608, 0.1922)
- G. Write the formulae used for converting HSI to RGB. Using these formula find the value of RGB for the given HSI= (211, 0.45, 0.51)
- H. What is image pyramids? Explain the system for creating approximation and prediction residual pyramids.
- I. Define Wavelet function.
- J. Write H Matrix for Haar transform for N= 4 and explain how it is constructed.
- K. Explain Erosion and dilation operations used for morphological processing.
- L. Explain the following morphological algorithms: i) Thinning and ii) Thickening.
- M. Briefly explain Opening and Closing
- N. Write a short note on Hit or Miss transform
- O. Explain the following morphological algorithms:
 i) Boundary Extraction ii) Hole filling iii) extraction of connected components iv) Convex Hull
- P. Briefly explain point and line detection techniques.
- Q. Explain image gradient and gradient operators for edge detection
- R. Explain Marr-Hildreth edge detector
- S. Write a short note on
 - i. Global and local Thresholding w.r.t. non-uniform illumination
 - ii. Optimum Thresholding
- T. Discuss the process of region growing, region splitting and merging for region based segmentation.
- U. Write a short note on Segmentation by Morphological Watersheds.
- V. Explain Global thresholding using Otsu's method.
- W. Briefly explain the shape numbers and Fourier descriptors
- X. Explain the following: signatures, boundary segments and skeletons.
- Y. Mention the aberrations of Minimum Perimeter Polygons (MPP) algorithm and explain it.
- Z. Briefly explain Shape Representation by using Chain Codes and obtain 8-chain code, first difference code and shape number for the following figure.



Answer *ten* questions as per the sequence given in the table, starting from the first letter. If any letter is repeated, skip and move to next letter.

	USN	Answer Sequence
1.	4CB16EC001	DHAPLUOZVITEKWP
2.	4CB16EC002	QBFLOBLXNQJJZP
3.	4CB16EC003	OTGDIEDOUUCOQZD
4.	4CB16EC004	NCCGUMFNGEVBXZQ
5.	4CB16EC005	MXPBISFGJCEHQMP
6.	4CB16EC006	UPQPFLRFALTYODT
7.	4CB16EC008	CHLMXIXKEFQRNIV
8.	4CB16EC009	FHESPQFWBIYQOJN
9.	4CB16EC010	IUCJHVFLNXNMKHQ
10.	4CB16EC011	FNDFXVNPKHOLXZU
11.	4CB16EC013	LPUFDLSWESBWQJG
12.	4CB16EC014	BIXYLIUZANTRAPU
13.	4CB16EC015	UXFKZBCQYHYQHXS
14.	4CB16EC016	HDKKECGWQPNMOTC
15.	4CB16EC017	DOMWATFSZEZCDQS
16.	4CB16EC018	VTJERGKVMNEQMCT
17.	4CB16EC019	ZQHHYOQWFLCJXVM
18.	4CB16EC020	DFDMOKIDPNMVODP
19.	4CB16EC021	APHNWLYNBOFSCHG
20.	4CB16EC022	OITHOIRNOUIXHSA
21.	4CB16EC023	EGMXEYNWJPCVBLQ
22.	4CB16EC024	TQZDVINIHWRMHMO
23.	4CB16EC025	AVCHPHPSZUXBFHD
24.	4CB16EC026	QDJJLADIJVPAHEY
25.	4CB16EC027	YPZKFCCFPLYNWXN
26.	4CB16EC028	MZGIBEIDKHHTRCX
27.	4CB16EC029	AHLGQEASMJNMPVJ
28.	4CB16EC030	KYQMSWYFLIMQON
29.	4CB16EC031	KZYTQXQNCJFOEEMW
30.	4CB16EC032	YFIKMTXBVLINHGM
31.	4CB16EC034	FCLZYGBUHWXRZOQ
32.	4CB16EC035	XCJIAPVWQXLFOIG
33.	4CB16EC036	GQSUWMGEBRWAGQX
34.	4CB16EC037	SVHOISWVQPGGATT
35.	4CB16EC038	JGUKCGBKCEHWPLU
36.	4CB16EC039	SHKGWAYBJZNTSFO

37.	4CB16EC040	HJMOPNSVJCNDQCQV
38.	4CB16EC041	BLVAJYLSFQNAWJC
39.	4CB16EC042	WMIAAGPQAKXAYHK
40.	4CB16EC043	KJLLTUEQPGRAIUJ
41.	4CB16EC044	ZTAYDUAPACOMCDQ
42.	4CB16EC045	SOYFMADMAMMSRLW
43.	4CB16EC046	KCQLPFFRNTASPBV
44.	4CB16EC047	ZSDCHUWHINBWBRN
45.	4CB16EC048	GFNVCLRRHPDSTUZ
46.	4CB16EC049	LCSJHVEPQBCQOJC
47.	4CB16EC050	HCIYAMDONSFVZTT
48.	4CB16EC051	SLSYJDPENKUHMUW
49.	4CB16EC052	BCFNPNPRARYEPZH
50.	4CB16EC053	RROUCZESPBUIKS
51.	4CB16EC054	RQXGXNFTGOKPGPQ
52.	4CB16EC055	GQOEFQNUSLUFBGT
53.	4CB16EC056	VVDZVSNWEEPWAXC
54.	4CB16EC057	DNOPKFGTBOAYJRZ
55.	4CB16EC059	BTPNMQTZYDZJOLW
56.	4CB16EC060	VRKOXFVRQIROBKP
57.	4CB16EC061	HMZRBPUZAGXOSSK
58.	4CB16EC062	OGCRKTGMUFZDUHB
59.	4CB16EC063	GYHRMYDTYPWTGNL
60.	4CB16EC064	EYDLPTDZDCQFILT
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63.	4CB16EC067	NWNYIBZMGIGTTUE
64.	4CB16EC068	WDISPFXUSWMGMJS
65.	4CB16EC069	JCNZHNYFJDPRGWE
66.	4CB16EC071	KQQBCZVTOAQUWLO
67.	4CB16EC072	BTEQCHURPZBIJN
68.	4CB16EC074	IPPFKPNNTNGJXKCD
69.	4CB16EC075	PIRNXXURLWEHBDL
70.	4CB16EC076	EIYVCVESCMIJZBUS
71.	4CB16EC077	PKFXNAQDDSPMBOC
72.	4CB16EC078	IZFIVLKEMIIADLB
73.	4CB16EC079	NOZALJKNNCBMTLK
74.	4CB16EC081	COJLSRPZQZMBGXI

75.	4CB16EC083	SMKNMVZEZQPZWRV	94.	4CB16EC110	GNDTAUIVWCOCFGC
76.	4CB16EC084	YCWKMZJPCRQBASR	95.	4CB16EC111	NKPYFDSUHVFPAEA
77.	4CB16EC086	FOQLPOMGOYSGMOI	96.	4CB16EC407	HWJESTBTGXNHXFL
78.	4CB16EC087	JFUAXIZMGQBLAHM	97.	4CB17EC401	HFIGROITQCGFFSB
79.	4CB16EC090	QMROSCUTOFOUNAW	98.	4CB17EC402	LFNQCFCTADLRGMS
80.	4CB16EC091	QWMZAFJTPTHEGZD	99.	4CB14EC100	SLAWIDTUYZSGBTS
81.	4CB16EC094	PJMHKHCOPYXVYBM	100.	4CB16EC103	MGSOEHDFTMLPVTM
82.	4CB16EC095	IMLEYTMNFUMLRPH	101.	4CB16EC085	AUUQONHVABFEFGL
83.	4CB16EC096	IMHNUCFFXAMWCWG	102.	4CB16EC073	RSIUSKFCBVPLNQH
84.	4CB16EC097	HVEBOQNQIPSLGUM	103.	4CB16EC080	WWKJDCCLNCAAXLK
85.	4CB16EC098	BNJSSXJRJRJVJAL	104.	4CB16EC082	ITPASKNBJRFGCLG
86.	4CB16EC099	FMAETZHIRLHQIMP	105.	4CB15EC116	PMNZFZWLMUVQIMW
87.	4CB16EC100	JBWNCKXOLWDRUD	106.	4CB15EC065	WUKITODWBJMRDYS
88.	4CB16EC102	JDKWEZRINJSMAEM	107.	4CB15EC024	MSFTLTTCMGQDBNMX
89.	4CB16EC104	RIPYWZBNXSIPCAV	108.	4CB15EC044	DIPIQUOAUAYWZGF
90.	4CB16EC105	AFTHSLEOSJPDCTM	109.	4CB15EC083	KMTNDEUYTHOZAZU
91.	4CB16EC106	FGANZMIGEHOHWMT			
92.	4CB16EC107	ZTMMBILCHCCZTER			
93.	4CB16EC108	THOVSPEAKBIZWTN			