

B.TECH SEM – VII (2007 COURSE) (ELECTRONICS ENGG.) :

SUMMER - 2018

SUBJECT: ELECTIVE-I: DSP PROCESSORS

Day: **Saturday**
Date: **26/05/2018**

S-2018-2789

Time: **02.30 PM TO 05.30 PM**
Max. Marks: 80

N.B:

- 1) **Q. No.1 and Q. No.5 are COMPULSORY.** Out of the remaining questions attempt **ANY TWO** questions.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both sections should be written **SEPARATE** answer books.
- 4) Assume suitable data if necessary.

SECTION-I

- Q.1** a) Explain any two instructions used in ADSP2181. (05)
b) List features of ADSP2181. (05)
c) What is the difference between DFT and FFT? (04)
- Q.2** a) With the help of neat block diagram explain TMS320C6XXX DSP processor. (07)
b) What is meant by modified bus structure and what is the memory access scheme in P-DSPs? (06)
- Q.3** a) Describe the Integrated Development Environment (IDE) for DSP system. (07)
b) Using appropriate diagram, explain the concept of (06)
i) Pipelining ii) MAC
- Q.4** a) Write DSP algorithm to compute DFT. (07)
b) What is finite impulse response? How is it different from IIR? (06)

SECTION-II

- Q.5** a) What are the properties of linear predictor filter? (05)
b) What is meant by power spectrum? (05)
c) What is the need of multirate signal processing? (04)
- Q.6** a) What is linear prediction? Explain the backward linear prediction in detail. (08)
b) Write short note on AR and ARMA models. (05)
- Q.7** a) Explain the computational requirement of non-parametric spectral estimates. (07)
b) How can the energy density spectrum be determined? (06)
- Q.8** a) What is the difference between up sampler and down sampler? Explain in detail. (08)
b) What is meant by aliasing? How aliasing can be avoided? (05)

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