

- (C) A 32-bit watchdog timer is connected to 24 MHz oscillator through prescaler unit. A time-out should occur if the function *watchdog_reset()* is not called within 8 minutes. Find out the value to be loaded into watchdog timer register. Prescaler is configured in $F/4$ mode, where F indicates oscillator frequency. 6

SECTION II

- Que.-4 (A) Explain IEEE 802.11 Wireless LAN standard in detail. 7
(B) Illustrate - Digital Camera Software Components 5
- Que.-4 (A) How System-On-Chip differs from Microcontroller? Provide a detailed explanation with diagram. 7
(B) Explain software development process for Embedded System. 5
- OR
- Que.-5 (A) With the help of diagram explain DMA controller. Assume that central processor is using vectored interrupt. 6
(B) What are the advantages, disadvantages and limitations of I2C protocol? 5
- OR
- Que.-5 (A) As an Embedded system designer, enlist the hardware components and software techniques for following interfacing. Justify your selection – There are total 8 peripherals to be connected to processor. They may request to processor simultaneously also. Processor has single pin for receiving interrupt from device. Number of peripherals can increase in near future. Each peripheral has its different importance level. One of the peripherals has frequent requirement of large data transfer to/from memory. 6
(B) Explain strobe/handshake compromise protocol with diagram. 5
- Que.-6 (A) Define the following terms: 4
a. Context-switching b. Firmware
c. Scheduler d. Linker
(B) Tabulate the differences between real time kernel and general purpose kernel 4
(C) Compare different memories in tabular format based on their characteristics – *programming speed* and *storage permanence*. List the worst and best choice of memory for both characteristics. 4

-----BEST OF LUCK-----