

MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY
DIT STAGE 5
MOBILE COMPUTING CIT 2301
MAIN EXAM SEP-DECEMBER 2019

instruction: answer question one and any two questions

QUESTION ONE(30 marks)

- (a) differentiate between nomadic computing and ubiquitous computing (3 mks)
- (b) state three characteristics of wireless sensor networks (3 mks)
- (c) what do you understand by the following terms (6 mks)
 - I. cellular network
 - II. cell
 - III. MAHO
 - IV. BSS
 - V. MSC
 - VI. VLR
- (d) state 4 requirements of a Secure Routing Protocol for Ad Hoc Wireless Networks(4 mks)
- (e) Differentiate between mobile ip and cellular ip (4 mks)
- (f) discuss five application areas of mobile computing with relevant examples (5 mks)
- (g) discuss three challenges of mobile computing devices (3 mks)
- (h) discuss two types of WLAN (2 mks)

QUESTION TWO(20 marks)

- (a) discuss three components of mobile IP (6 mks)
- (b) explain three reasons why hand-off occurs (3 mks)
- (c) what do you understand by GSM in mobile computing (2 mks)
- (d) compare and contrast IPV4 and IPV6 in mobile computing (9 mks)

QUESTION THREE(20 marks)

- (a) discuss two ways of coping with uncertainties in mobile computing (4 mks)
- (b) discuss four WLAN protocols you know (4 mks)
- (c) discuss two location management implementation methods in mobile computing (4 mks)
- (d) discuss the three main phases of mobile IP process (8 mks)

QUESTION FOUR(20 marks)

- (a) discuss the components of WLAN (8 mks)
- (b) discuss two types of Mobile value added services (4 mks)
- (c) state the IEEE 802.11 specifications you know in networking (6 mks)

QUESTION FIVE(20 marks)

- (a) discuss five challenges in mobile computing (10 mks)
- (b) why do we use hexagonal shape in cellular networks for cells (4 mks)
- (c) discuss two types of trunks used in networks. (6 mks)