**LMS Questions for [Course Name and Code]**

(Five multiple-choice questions per unit with one correct answer and three incorrect answers. Use the second column to indicate the corresponding unit section.)

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| **Unit/**  **Question Number** | **Section** | **Question** | **Correct answer** | **Incorrect answer** | **Incorrect answer** | **Incorrect answer** |
| 1/1 | 1.1 | Which event was key for the recent history of AI? | The Dartmouth Conference | The Gartner IT Symposium | The International Conference of AI | The International Conference of Machine Learning |
| 1/2 | 1.1 | From which disciplines did Marvin Minsky combine knowledge to contribute to AI? | Computer science and cognitive science | Mathematics and physics | Linguistics and computer science | Neurology and computer vision |
| 1/3 | 1.2 | Which of the following was not a reason for the AI winters? | The climate change | Availability of algorithms | Computational capacity | Availability of data |
| 1/4 | 1.3 | For which group of end users are expert systems developed? | Non-expert users | Expert users | System administrators | Data scientists |
| 1/5 | 1.4 | What proportion of AI systems have already reached the plateau of productivity at the Gartner Hype Cycle curve? | None | Almost all of them | About the half | About 10% |
| **Unit/**  **Question Number** | **Section** | **Question** | **Correct answer** | **Incorrect answer** | **Incorrect answer** | **Incorrect answer** |
| 2/1 | 2.1 | What statement is true about narrow and general AI? | Current systems all belong to the category of ANI. | About half of the systems belong to ANI, the other to AGI. | Google belongs to the group of AGI. | Super intelligence is a sub-category of AGI. |
| 2/2 | 2.2 | What is robotic process automation about? | Automating repetitive processes by machines. | Automation of robots. | Automation of processes using humanoid robots. | Enhancing robotics by natural communication skills. |
| 2/3 | 2.2 | What is a typical application scenario for AI in financial services? | Fraud detection | Online banking | Project controlling | Transfer processing |
| 2/4 | 2.2 | Which data set is not required for the development of AI systems? | Offline data set | Training set | Validation set | Test set |
| 2/5 | 2.2 | What is another name for the confusion matrix? | Error matrix | AI matrix | Test matrix | Validation matrix |
| **Unit/**  **Question Number** | **Section** | **Question** | **Correct answer** | **Incorrect answer** | **Incorrect answer** | **Incorrect answer** |
| 3/1 | 3.1 | Who performs the actions in reinforcement learning? | The agent | The environment | The policy | The value function |
| 3/2 | 3.2 | What do the decisions in Markov decision processes depend on? | The present state | The history of states | The future state | The final state |
| 3/3 | 3.3 | What kind of approach is used in temporal difference learning? | A model free approach | A model-based approach | A data driven approach | A supervised approach |
| 3/4 | 3.3 | What elements does the reward in the Bellman equation consist of? | The immediate and the future expected reward. | The past and the immediate reward. | The past and the future reward. | The total reward. |
| 3/5 | 3.4 | What component describes which action is picked in a certain state? | The policy | The environment | The value function | The agent |
| **Unit/**  **Question Number** | **Section** | **Question** | **Correct answer** | **Incorrect answer** | **Incorrect answer** | **Incorrect answer** |
| 4/1 | 4.1 | What kind of approaches was used in early NLP? | Rule-based approaches | Statistical-based approaches | Neural networks | Logical inference |
| 4/2 | 4.1 | What aspects of a text does sentiment analysis deal with? | Subjective aspects | Objective aspects | Spoken aspects | Linguistic aspects |
| 4/3 | 4.1 | Which of the following statements is true? | Text-to-text translation is a part of speech-to-speech translation. | Speech-to-speech translation is a part of text-to-text translation. | Speech-to-Speech translation is a part of machine translation. | Text-to-text translation required a component for automatic speech recognition. |
| 4/4 | 4.2 | Which of the following statements is true? | Semantics deal with the meaning of a text. | Semantics deal with the grammatical structure of a text. | Semantics are about syntactical rules. | Syntax deals with the meaning of a text. |
| 4/5 | 4.3 | Which of the following statements is true for the BoW model? | The meaning of a text gets lost. | The context of a sentence is important in BoW. | The size of the vocabulary of BoW is not important. | A larger size of the vocabulary makes a better model in BoW |
| **Unit/**  **Question Number** | **Section** | **Question** | **Correct answer** | **Incorrect answer** | **Incorrect answer** | **Incorrect answer** |
| 5/1 | 5.1 | Which of the following statements is true for computer vision tasks? | Removing noise from videos is part of image restoration. | Object tracking is part of geometry reconstruction. | Object classification can be used to estimate a 3D model of the world | Geometry reconstruction deals with the detection of persons in images. |
| 5/2 | 5.2 | How many bits does the monochrome representation of images require? | 1 bit | 8 bit | 2 bit | 16 bit |
| 5/3 | 5.2 | Which assumption is made in computer vision? | A camera image is a linear projection of a scene. | A camera image is a radial projection of a scene. | A camera image is always shown upside down. | A scene from the real world cannot be projected by a camera. |
| 5/4 | 5.2 | Which of the following statements is true about camera calibration? | The extrinsic and intrinsic parameters have to be known. | Camera calibration is not necessary in computer vision | Intrinsic parameters include the orientation of the real-world coordinates to the position of the camera. | Camera calibration can only be done in a 2-dimensional scenario. |
| 5/5 | 5.3 | Clustering parts of an image into groups is an example for… | … semantic segmentation | … camera calibration | … 2d projection of 3d scenarios | … noise detection. |