

<b>SET</b>	<b>A</b>
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**INDIAN SCHOOL MUSCAT  
HALF YEARLY EXAMINATION 2023  
ARTIFICIAL INTELLIGENCE- 417**

CLASS:X

Max.Marks: 50

MARKING SCHEME			
SET	QN.NO	VALUE POINTS <u>SECTION-A</u>	MARKS SPLIT UP
A	1.	a) Time Management	1
A	2.	b) Driving during rush hour	1
A	3.	c) Double clicking	1
A	4.	d) INSERT	1
A	5.	Google Maps, Ola,Uber etc	1
A	6.	Naturalistic	1
A	7.	a) IOT	1
A	8.	b) Natural Language Processing	1
A	9.	AI ethics	1
A	10.	a) Data Privacy	1
A	11.	True	1
A	12.	Problem Statement Template	1
A	13.	b)17	1
A	14.	c) Problem Scoping	1
A	15.	Rule Based Approach	1
A	16.	a) Regression	1

A	17.	Reinforcement learning	1
A	18.	d) Text and speech	1
A	19.	Automatic Summarization	1
A	20.	Sentiment Analysis	1
A	21.	b) Chatbot	1
A	22.	Virtual Assistants	1
<b><u>SECTION-B (28 Marks)</u></b>			
A	23.	<p><b>Self-awareness:</b> Gather insights on your personality and work-specific proficiencies.</p> <ul style="list-style-type: none"> <li>• <b>Responsibility:</b> Taking responsibility for your tasks.</li> <li>• <b>Time Management:</b> Prioritise the things you have to do. Make a time table and follow it diligently.</li> <li>• <b>Adaptability:</b> Stay current with best practices. Prepare yourself for new changes.</li> </ul>	$\frac{1}{2} \times 4 = 2$
A	24.	<p>It is the ability to identify and manage one's own emotions, as well as the emotions of others.</p> <p>It is generally said to include at least three skills:</p> <ul style="list-style-type: none"> <li>• <b>Emotional awareness:</b> the ability to identify and name one's own emotions.</li> <li>• <b>Harnessing emotions:</b> the ability to harness and apply emotions to tasks like thinking and problem solving.</li> <li>• <b>Managing emotions:</b> the ability to regulate one's own emotions when necessary and help others to do the same.</li> </ul> <p>(Any two skills)</p>	$1 + \frac{1}{2} + \frac{1}{2} = 2$
A	25.	Punctuation keys include keys for punctuation marks, such as colon (:), semicolon (;), question mark (?), single quotation marks ( ' '), and double quotation marks ( " ").	2
A	26.	<p>Data science is the study of data. It is related to data systems and processes in which the system collects numerous data maintains data sets and extracts information out of them.</p> <p>CV, is a domain of AI that depicts the capability of a machine to gather, analyse visual information and afterwards predict some decisions about it. In computer vision, Input to machines can be photographs, videos and pictures from thermal or infrared sensors, indicators and different sources.</p>	$1 + 1 = 2$
A	27.	Machine Learning It is a subset of Artificial Intelligence which enables machines to improve at tasks with experience (data). The intention of Machine Learning is to enable machines to learn by themselves using the provided data and make accurate predictions/ decisions.	$1 + 1 = 2$

		In Deep Learning, the machine is trained with huge amounts of data which helps it in training itself around the data. Such machines are intelligent enough to develop algorithms for themselves. This is the process of implementing Neural Networks on high dimensional data to gain insights and form solutions.	
A	28.	<p><b>Clustering:</b> Refers to the unsupervised learning algorithm which can cluster the unknown data according to the patterns or trends identified out of it. The patterns observed might be the ones which are known to the developer or it might even come up with some unique patterns out of it.</p> <p><b>Dimensionality Reduction:</b> We humans are able to visualise upto 3-Dimensions only but according to a lot of theories and algorithms, there are various entities which exist beyond 3-Dimensions. For example, in Natural language Processing, the words are considered to be N-Dimensional entities. Which means that we cannot visualise them as they exist beyond our visualisation ability. Hence, to make sense out of it, we need to reduce their dimensions. Here, dimensionality reduction algorithm is used.</p>	$1 + 1 = 2$
A	29.	<p>Script-bot are easy to make , Script bots work around a script which is programmed in them, Mostly they are free and are easy to integrate to a messaging platform, No or little language processing skills, Limited functionality</p> <p>Smart-bot: Smart-bots are flexible and powerful, Smart bots work on bigger databases and other resources directly ,Smart bots learn with more data, Coding is required to take this up on board, Wide functionality.</p>	$1 + 1 = 2$
A	30.	Text classification makes it possible to assign predefined categories to a document and organize it to help you find the information you need or simplify some activities. For example, an application of text categorization is spam filtering in email.	$1 + 1 = 2$
A	31.	<ul style="list-style-type: none"> <li>• <b>Mathematical Logical Intelligence:</b> The ability to regulate, measure and understand numerical symbols, abstraction and logic</li> <li>• <b>Linguistic Intelligence:</b> It is the Language processing skills both in terms of understanding or implementation in writing or speech.</li> <li>• <b>Spatial Visual Intelligence:</b> It is the ability to perceive the visual world and the relationship of one object to another.</li> <li>• <b>Kinesthetic Intelligence:</b> It is the ability that is related to how a person uses his limbs in a skilled manner.</li> <li>• <b>Musical Intelligence:</b> it is the person's ability to recognize and create sounds, rhythms, and sound patterns.</li> <li>• <b>Intrapersonal Intelligence:</b> It is defined as the ability to realize one's weakness, strength and his own feelings.</li> <li>• <b>Existential Intelligence:</b> It is the intelligence related to religious and spiritual awareness.</li> <li>• <b>Naturalist Intelligence:</b> This intelligence is related to the ability to</li> </ul>	$1+1+1+1=4$

		<p>process information around us.</p> <ul style="list-style-type: none"> <li>• <b>Interpersonal Intelligence:</b> Interpersonal intelligence is the ability to communicate with others by understanding other people's feelings and the influence of the person.</li> </ul> <p>(Any four)</p>	
A	32.	<p><b>AI project cycle</b> is the life cycle of an AI project.</p> <p>Project cycle is a step by step process to solve the problems using proven scientific methods and drawing the inference about it.</p> <p><b>Data Acquisition</b> is the process of collecting accurate/reliable data from or the project. Data refers to the raw facts or figures. It can be of any form such as text, video, images, audio etc., and it can be collected from various source like the internet, journals ,newspapers and so on.</p> <p><b>Data Exploration</b> is to analyse the data, you need to visualise it in some user-friendly format so that you can:</p> <ul style="list-style-type: none"> <li>• Quickly get a sense of the trends, relationships and patterns contained within the data.</li> <li>• Define strategy for which model to use at a later stage.</li> <li>• Communicate the same to others effectively. To visualize data, we can use various types of visual representations.</li> </ul> <p><b>Modelling</b> is the ability to mathematically describe the relationship between parameters is the heart of every AI model. Thus, whenever we talk about developing AI models, it is the mathematical approach towards analysing data which we refer to.</p>	1+1+1+1=4
A	33.	<p>Humans communicate through language which we process all the time. Our brain keeps on processing the sounds that it hears around itself and tries to make sense out of them all the time. The sound reaches the brain through a long channel. As a person speaks, the sound travels from his mouth and goes to the listener's eardrum. The sound striking the eardrum is converted into neuron impulse, gets transported to the brain and then gets processed. After processing the signal, the brain gains understanding around the meaning of it. If it is clear, the signal gets stored. Otherwise, the listener asks for clarity to the speaker. This is how human languages are processed by humans.</p> <p>On the other hand, the computer understands the language of numbers. Everything that is sent to the machine has to be converted to numbers. And while typing, if a single mistake is made, the computer throws an error and does not process that part. The communications made by the machines are very basic and simple.</p>	4

<b>SET</b>	<b>B</b>
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HALF YEARLY EXAMINATION 2023  
ARTIFICIAL INTELLIGENCE- 417**

CLASS:X

Max.Marks: 50

MARKING SCHEME			
SET	QN.NO	VALUE POINTS <u>SECTION-A</u>	MARKS SPLIT UP
B	1.	a) Adaptability	1
B	2.	d) Enjoying holidays with family	1
B	3.	b) Point and click	1
B	4.	d) ENTER	1
B	5.	Google Maps, Ola,Uber etc	1
B	6.	Naturalistic	1
B	7.	a) IOT	1
B	8.	b) Natural Language Processing	1
B	9.	AI ethics	1
B	10.	a) Data Privacy	1
B	11.	True	1
B	12.	Problem Statement Template	1
B	13.	b)17	1
B	14.	c) Problem Scoping	1
B	15.	Rule Based Approach	1
B	16.	a) Regression	1

B	17.	Reinforcement learning	1
B	18.	d) Text and speech	1
B	19.	Automatic Summarization	1
B	20.	Sentiment Analysis	1
B	21.	b) Chatbot	1
B	22.	Virtual Assistants	1
<b><u>SECTION-B (28 Marks)</u></b>			
B	23.	<ul style="list-style-type: none"> <li>• Time management</li> <li>• Physical exercise and fresh air.</li> <li>• Healthy diet.</li> <li>• Positivity.</li> <li>• Organising academic life; no delaying.</li> <li>• Sleep.</li> <li>• Holidays with family and friends.</li> </ul> <p style="text-align: right;">(Any four)</p>	$\frac{1}{2} \times 4 = 2$
B	24.	<p>It is the ability to identify and manage one's own emotions, as well as the emotions of others.</p> <ul style="list-style-type: none"> <li>• Understand your emotions: Observe your behaviour and note the things you need to work on. You can then work on the things you need to improve.</li> <li>• Rationalise: Do not take decisions abruptly; be rational in your thinking.</li> <li>• Practise: Do meditation and yoga to keep yourself calm.</li> </ul> <p style="text-align: right;">(Any two skills)</p>	$1 + \frac{1}{2} + \frac{1}{2} = 2$
B	25.	Keys labeled from F1 to F12 are function keys. You use them to perform specific functions. Their functions differ from program to program. The function of the F1 key in most programs is to get help on that program. Some keyboards may have fewer function keys.	2
B	26.	<p>Data science is the study of data. It is related to data systems and processes in which the system collects numerous data maintains data sets and extracts information out of them.</p> <p>CV, is a domain of AI that depicts the capability of a machine to gather, analyse visual information and afterwards predict some decisions about it. In computer vision, Input to machines can be photographs, videos and pictures from thermal or infrared sensors, indicators and different sources.</p>	$1 + 1 = 2$
B	27.	<p>Machine Learning It is a subset of Artificial Intelligence which enables machines to improve at tasks with experience (data). The intention of Machine Learning is to enable machines to learn by themselves using the provided data and make accurate predictions/ decisions.</p> <p>In Deep Learning, the machine is trained with huge amounts of data which helps it in training itself around the data. Such machines are</p>	$1 + 1 = 2$

		intelligent enough to develop algorithms for themselves. This is the process of implementing Neural Networks on high dimensional data to gain insights and form solutions.	
B	28.	<p><b>Clustering:</b> Refers to the unsupervised learning algorithm which can cluster the unknown data according to the patterns or trends identified out of it. The patterns observed might be the ones which are known to the developer or it might even come up with some unique patterns out of it.</p> <p><b>Dimensionality Reduction:</b> We humans are able to visualise upto 3-Dimensions only but according to a lot of theories and algorithms, there are various entities which exist beyond 3-Dimensions. For example, in Natural language Processing, the words are considered to be N-Dimensional entities. Which means that we cannot visualise them as they exist beyond our visualisation ability. Hence, to make sense out of it, we need to reduce their dimensions. Here, dimensionality reduction algorithm is used.</p>	$1 + 1 = 2$
B	29.	<p>Script-bot are easy to make , Script bots work around a script which is programmed in them, Mostly they are free and are easy to integrate to a messaging platform, No or little language processing skills, Limited functionality</p> <p>Smart-bot: Smart-bots are flexible and powerful, Smart bots work on bigger databases and other resources directly ,Smart bots learn with more data, Coding is required to take this up on board, Wide functionality.</p>	$1 + 1 = 2$
B	30.	Text classification makes it possible to assign predefined categories to a document and organize it to help you find the information you need or simplify some activities. For example, an application of text categorization is spam filtering in email.	$1 + 1 = 2$
B	31.	<ul style="list-style-type: none"> <li>• <b>Mathematical Logical Intelligence:</b> The ability to regulate, measure and understand numerical symbols, abstraction and logic</li> <li>• <b>Linguistic Intelligence:</b> It is the Language processing skills both in terms of understanding or implementation in writing or speech.</li> <li>• <b>Spatial Visual Intelligence:</b> It is the ability to perceive the visual world and the relationship of one object to another.</li> <li>• <b>Kinesthetic Intelligence:</b> It is the ability that is related to how a person uses his limbs in a skilled manner.</li> <li>• <b>Musical Intelligence:</b> it is the person's ability to recognize and create sounds, rhythms, and sound patterns.</li> <li>• <b>Intrapersonal Intelligence:</b> It is defined as the ability to realize one's weakness, strength and his own feelings.</li> <li>• <b>Existential Intelligence:</b> It is the intelligence related to religious and spiritual awareness.</li> <li>• <b>Naturalist Intelligence:</b> This intelligence is related to the ability to process information around us.</li> <li>• <b>Interpersonal Intelligence:</b> Interpersonal intelligence is the ability to communicate with others by understanding other people's feelings</li> </ul>	$1+1+1+1=4$

		and the influence of the person. (Any four)	
B	32.	<p><b>AI project cycle</b> is the life cycle of an AI project. Project cycle is a step by step process to solve the problems using proven scientific methods and drawing the inference about it.</p> <p><b>Data Acquisition</b> is the process of collecting accurate/reliable data from or the project. Data refers to the raw facts or figures. It can be of any form such as text, video, images, audio etc., and it can be collected from various source like the internet, journals ,newspapers and so on.</p> <p><b>Data Exploration</b> is to analyse the data, you need to visualise it in some user-friendly format so that you can:</p> <ul style="list-style-type: none"> <li>● Quickly get a sense of the trends, relationships and patterns contained within the data.</li> <li>● Define strategy for which model to use at a later stage.</li> <li>● Communicate the same to others effectively. To visualize data, we can use various types of visual representations.</li> </ul> <p><b>Modelling</b> is the ability to mathematically describe the relationship between parameters is the heart of every AI model. Thus, whenever we talk about developing AI models, it is the mathematical approach towards analysing data which we refer to.</p>	1+1+1+1=4
B	33.	<p>Humans communicate through language which we process all the time. Our brain keeps on processing the sounds that it hears around itself and tries to make sense out of them all the time. The sound reaches the brain through a long channel. As a person speaks, the sound travels from his mouth and goes to the listener's eardrum. The sound striking the eardrum is converted into neuron impulse, gets transported to the brain and then gets processed. After processing the signal, the brain gains understanding around the meaning of it. If it is clear, the signal gets stored. Otherwise, the listener asks for clarity to the speaker. This is how human languages are processed by humans.</p> <p>On the other hand, the computer understands the language of numbers. Everything that is sent to the machine has to be converted to numbers. And while typing, if a single mistake is made, the computer throws an error and does not process that part. The communications made by the machines are very basic and simple.</p>	4



<b>SET</b>	<b>C</b>
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CLASS:X

Max.Marks: 50

MARKING SCHEME			
SET	QN.NO	VALUE POINTS <u>SECTION-A</u>	MARKS SPLIT UP
C	1.	a) Responsibility	1
C	2.	b) Waiting 2 Hrs in a traffic jam	1
C	3.	a) Hover	1
C	4.	d) END	1
C	5.	Google Maps, Ola,Uber etc	1
C	6.	Naturalistic	1
C	7.	a) IOT	1
C	8.	b) Natural Language Processing	1
C	9.	AI ethics	1
C	10.	a) Data Privacy	1
C	11.	True	1
C	12.	Problem Statement Template	1
C	13.	b)17	1
C	14.	c) Problem Scoping	1
C	15.	Rule Based Approach	1
C	16.	a) Regression	1

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C	18.	d) Text and speech	1
C	19.	Automatic Summarization	1
C	20.	Sentiment Analysis	1
C	21.	b) Chatbot	1
C	22.	Virtual Assistants	1
<b><u>SECTION-B (28 Marks)</u></b>			
C	23.	Stress can be defined as our emotional, mental, physical and social reaction to any perceived demands or threats. Step 1: Be aware that you are stressed Step 2: Identify what is causing you stress Step 3: Apply stress management methods	$\frac{1}{2} + 1 \frac{1}{2} = 2$
C	24.	It is the ability to identify and manage one's own emotions, as well as the emotions of others. • Understand your emotions: Observe your behaviour and note the things you need to work on. You can then work on the things you need to improve. • Rationalise: Do not take decisions abruptly; be rational in your thinking. • Practise: Do meditation and yoga to keep yourself calm. (Any two skills)	$1 + \frac{1}{2} + \frac{1}{2} = 2$
C	25.	The label on this key can be either ENTER or RETURN, depending on the brand of computer that you are using. You use the ENTER or the RETURN key to move the cursor to the beginning of a new line. In some programs, it is used to send commands and to confirm a task on a computer.	2
C	26.	Data science is the study of data. It is related to data systems and processes in which the system collects numerous data maintains data sets and extracts information out of them. CV, is a domain of AI that depicts the capability of a machine to gather, analyse visual information and afterwards predict some decisions about it. In computer vision, Input to machines can be photographs, videos and pictures from thermal or infrared sensors, indicators and different sources.	$1 + 1 = 2$
C	27.	Any machine that has been trained with data and can make decisions/predictions on its own can be termed as AI. Here, the term 'training' is important.  • A fully automatic washing machine can work on its own, but it requires human intervention to select the parameters of washing and to do the necessary preparation for it to function correctly before each wash, which makes it an example of automation, not AI.	$1 + 1 = 2$

		An air conditioner can be turned on and off remotely with the help of internet but still needs a human touch. This is an example of Internet of Things (IoT).	
C	28.	<p><b>Clustering:</b> Refers to the unsupervised learning algorithm which can cluster the unknown data according to the patterns or trends identified out of it. The patterns observed might be the ones which are known to the developer or it might even come up with some unique patterns out of it.</p> <p><b>Dimensionality Reduction:</b> We humans are able to visualise upto 3-Dimensions only but according to a lot of theories and algorithms, there are various entities which exist beyond 3-Dimensions. For example, in Natural language Processing, the words are considered to be N-Dimensional entities. Which means that we cannot visualise them as they exist beyond our visualisation ability. Hence, to make sense out of it, we need to reduce their dimensions. Here, dimensionality reduction algorithm is used.</p>	$1 + 1 = 2$
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C	32.	<p><b>AI project cycle</b> is the life cycle of an AI project. Project cycle is a step by step process to solve the problems using proven scientific methods and drawing the inference about it.</p> <p><b>Data Acquisition</b> is the process of collecting accurate/reliable data from or the project. Data refers to the raw facts or figures. It can be of any form such as text, video, images, audio etc., and it can be collected from various source like the internet, journals ,newspapers and so on.</p> <p><b>Data Exploration</b> is to analyse the data, you need to visualise it in some user-friendly format so that you can:</p> <ul style="list-style-type: none"> <li>● Quickly get a sense of the trends, relationships and patterns contained within the data.</li> <li>● Define strategy for which model to use at a later stage.</li> <li>● Communicate the same to others effectively. To visualize data, we can use various types of visual representations.</li> </ul> <p><b>Modelling</b> is the ability to mathematically describe the relationship between parameters is the heart of every AI model. Thus, whenever we talk about developing AI models, it is the mathematical approach towards analysing data which we refer to.</p>	1+1+1+1=4
C	33.	<p>Humans communicate through language which we process all the time. Our brain keeps on processing the sounds that it hears around itself and tries to make sense out of them all the time. The sound reaches the brain through a long channel. As a person speaks, the sound travels from his mouth and goes to the listener's eardrum. The sound striking the eardrum is converted into neuron impulse, gets transported to the brain and then gets processed. After processing the signal, the brain gains understanding around the meaning of it. If it is clear, the signal gets stored. Otherwise, the listener asks for clarity to the speaker. This is how human languages are processed by humans.</p> <p>On the other hand, the computer understands the language of numbers. Everything that is sent to the machine has to be converted to numbers. And while typing, if a single mistake is made, the computer throws an error and does not process that part. The communications made by the machines are very basic and simple.</p>	4