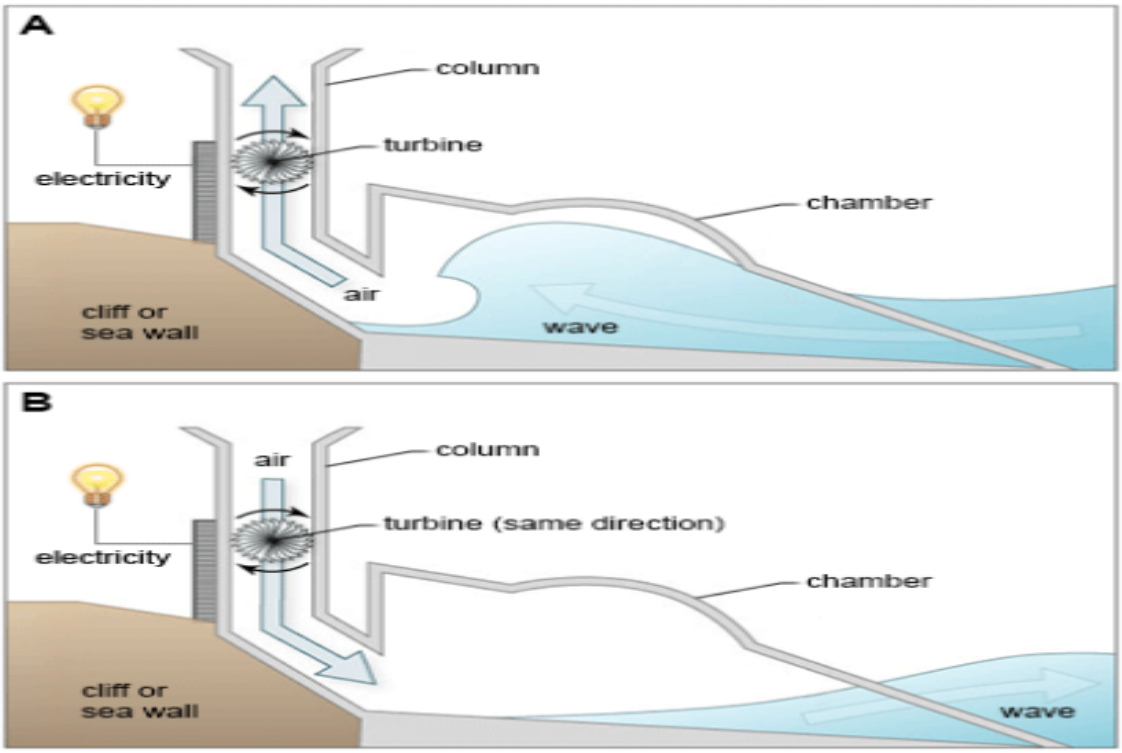
Task 1: Process Diagram

Subject: The diagrams below show a structure that is used to generate electricity from wave power.



Model Answer #1

Response:

The diagrams illustrate two distinct methods of generating electricity using sea energy. Both systems utilize turbines and chambers but differ significantly in their operational mechanisms.

System A relies on wave energy to produce electricity. Key components include a hollow column, a turbine, an air-filled chamber, and a sea wall. As waves approach the structure, they force air within the chamber upward. This pressurized air drives the turbine, which rotates to generate electricity. When the waves recede, air flows back into the chamber, maintaining the turbine's motion. This bidirectional airflow allows continuous energy production as long as waves are present.

System B, in contrast, uses the kinetic energy of seawater directly. It consists of a column, a turbine (rotating in a single direction), a chamber, and a sea wall. Unlike System A, water enters the chamber and flows through it, propelling the turbine consistently in the same direction. This unidirectional rotation simplifies the turbine design and ensures stable electricity generation, particularly in areas with strong tidal currents.

The primary difference lies in the energy source: System A depends on air pressure fluctuations caused by waves, whereas System B harnesses the direct movement of water. Additionally, System A's turbine operates bidirectionally, while System B's turbine rotates unidirectionally. Both systems, however, share common features such as a column, chamber, and sea wall, which are essential for structural stability.

In summary, while System A and B both generate renewable energy from the sea, their operational principles differ significantly. System A capitalizes on wave-induced air pressure, whereas System B exploits the kinetic energy of moving water. These methods highlight innovative approaches to sustainable energy production.

Evaluation:

Overall Band Score: 9

Task Response (9): The report provides a comprehensive and accurate summary of the diagrams, effectively addressing all aspects of the task.

Coherence & Cohesion (9): The report is exceptionally well-organized and easy to follow. The logical flow of ideas and the use of cohesive devices are seamless.

Lexical Resource (8.5): The report demonstrates a wide range of sophisticated vocabulary, used accurately and appropriately throughout. The language is precise and natural.

Grammatical Range & Accuracy (9): The grammar is impeccable. A wide range of grammatical structures is used with complete accuracy and fluency.

Model Answer #2

Response:

The diagrams illustrate the process of generating electricity from wave power using a structure built along a cliff or sea wall. The process involves the movement of waves and the corresponding displacement of air to drive a turbine, producing electricity.

In the first diagram, as a wave enters the chamber, the air inside is compressed and forced upwards through a column. This high-pressure air turns a turbine, generating electricity. The air is then released through the top of the column. The continuous motion of the waves ensures a consistent supply of compressed air, maintaining power generation.

In the second diagram, as the wave retreats, a vacuum effect is created, drawing air back down through the column. This movement causes the turbine to spin in the same direction, despite the reversal of airflow. The specialized turbine design enables it to operate efficiently during both the wave's rise and fall.

A notable advantage of this system is its ability to generate electricity from the natural motion of waves without relying on fossil fuels. The use of bidirectional airflow ensures constant turbine rotation, maximizing energy output. Additionally, its placement along coastal areas allows the structure to harness the power of ocean waves effectively. This renewable energy solution contributes to reducing carbon emissions and promoting sustainable energy generation.

Evaluation:

Overall Band Score: 9

Task Response (9): The report provides a comprehensive summary of the diagrams, accurately describing the main features and making relevant comparisons. All aspects of the task are addressed thoroughly and completely.

Coherence & Cohesion (9): The report is exceptionally well-organized and easy to follow. The information flows logically, with clear transitions between paragraphs and ideas. The use of cohesive devices is seamless and sophisticated.

Lexical Resource (9): The report demonstrates a wide range of sophisticated vocabulary, used accurately and appropriately. The language is precise and natural, enhancing the overall clarity and impact of the report.

Grammatical Range & Accuracy (9): The grammar is impeccable throughout the report. A wide range of grammatical structures is used accurately and flexibly, contributing to the overall fluency and sophistication of the writing.

Model Answer #3

Response:

The diagram illustrates the process of generating electricity using wave energy. The system consists of a chamber, a turbine, and an electricity generator, positioned along a cliff or sea wall to harness wave movement.

Overall, the process relies on the natural motion of waves to create airflow that drives a turbine, which in turn generates electricity. The system ensures continuous energy production by utilizing both incoming and outgoing waves.

In the first stage (Diagram A), an approaching wave enters the chamber, compressing the air inside. This air is then forced upward through a column, causing the turbine to spin and generate electricity. The air then exits through an opening at the top of the column.

In the second stage (Diagram B), as the wave recedes, it creates a vacuum effect that draws air back into the chamber from above. This reverse airflow once again passes through the column, spinning the turbine in the same direction due to its specialized design. As a result, electricity continues to be generated even during the outgoing wave phase.

Evaluation:

Overall Band Score: 9

Task Response (9): Excellent response to the task. All elements are covered, and the description is accurate and detailed.

Coherence & Cohesion (9): The report is exceptionally well-organized and easy to follow. The flow of information is natural and logical.

Lexical Resource (9): A wide range of sophisticated vocabulary is used accurately and appropriately. The language is precise and effective.

Grammatical Range & Accuracy (9): The grammar is flawless. A wide range of grammatical structures is used with complete accuracy and fluency.

Model Answer #4

Response:

The diagrams illustrate how a wave-energy generator converts the motion of sea waves into electricity.

In the first diagram (A), as a wave approaches the chamber from the sea, it causes water levels inside the chamber to rise. This movement compresses the air inside the chamber, forcing it upwards through a narrow passage. As the air travels through this passage, it spins a turbine located in the column above. The rotation of the turbine then powers an electricity generator, converting kinetic energy into electrical energy.

The second diagram (B) shows the reverse airflow process when the wave recedes. As water levels fall in the chamber, air from outside is drawn downwards, flowing through the column and spinning the turbine in the same direction as before. This consistent rotation of the turbine ensures a continuous generation of electricity, driven by the cycle of incoming and outgoing waves.

Overall, the system effectively captures wave energy by utilizing air pressure changes within the chamber, allowing the turbine to produce a steady flow of electricity. This method highlights a sustainable way to harness natural wave motion for energy production.

Evaluation:

Overall Band Score: 9

Task Response (9): Excellent response to the task. All aspects of the diagrams are accurately described and compared.

Coherence & Cohesion (9): The report is exceptionally well-organized and easy to follow. The information flows smoothly and logically.

Lexical Resource (9): A wide range of sophisticated vocabulary is used precisely and appropriately. The language is natural and fluent.

Grammatical Range & Accuracy (9): The grammar is impeccable. A wide range of structures is used accurately and flexibly.

Model Answer #5

Response:

The diagrams illustrate two distinct methods of generating electricity using sea energy. Both systems utilize turbines and chambers but differ significantly in their operational mechanisms.

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The primary difference lies in the energy source: System A depends on air pressure fluctuations caused by waves, whereas System B harnesses the direct movement of water. Additionally, System A's turbine operates bidirectionally, while System B's turbine rotates unidirectionally. Both systems, however, share common features such as a column, chamber, and sea wall, which are essential for structural stability.

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Model Answer #6

Response:

The diagrams illustrate the process of generating electricity from wave power using a structure built along a cliff or sea wall. The process involves the movement of waves and the corresponding displacement of air to drive a turbine, producing electricity.

In the first diagram, as a wave enters the chamber, the air inside is compressed and forced upwards through a column. This high-pressure air turns a turbine, generating electricity. The air is then released through the top of the column. The continuous motion of the waves ensures a consistent supply of compressed air, maintaining power generation.

In the second diagram, as the wave retreats, a vacuum effect is created, drawing air back down through the column. This movement causes the turbine to spin in the same direction, despite the reversal of airflow. The specialized turbine design enables it to operate efficiently during both the wave's rise and fall.

A notable advantage of this system is its ability to generate electricity from the natural motion of waves without relying on fossil fuels. The use of bidirectional airflow ensures constant turbine rotation, maximizing energy output. Additionally, its placement along coastal areas allows the structure to harness the power of ocean waves effectively. This renewable energy solution contributes to reducing carbon emissions and promoting sustainable energy generation.

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Grammatical Range & Accuracy (9): The grammar is impeccable throughout the report. A wide range of grammatical structures is used accurately and flexibly, contributing to the overall fluency and sophistication of the writing.

Model Answer #7

Response:

The diagram illustrates the process of generating electricity using wave energy. The system consists of a chamber, a turbine, and an electricity generator, positioned along a cliff or sea wall to harness wave movement.

Overall, the process relies on the natural motion of waves to create airflow that drives a turbine, which in turn generates electricity. The system ensures continuous energy production by utilizing both incoming and outgoing waves.

In the first stage (Diagram A), an approaching wave enters the chamber, compressing the air inside. This air is then forced upward through a column, causing the turbine to spin and generate electricity. The air then exits through an opening at the top of the column.

In the second stage (Diagram B), as the wave recedes, it creates a vacuum effect that draws air back into the chamber from above. This reverse airflow once again passes through the column, spinning the turbine in the same direction due to its specialized design. As a result, electricity continues to be generated even during the outgoing wave phase.

Evaluation:

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Model Answer #8

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The diagrams illustrate how a wave-energy generator converts the motion of sea waves into electricity.

In the first diagram (A), as a wave approaches the chamber from the sea, it causes water levels inside the chamber to rise. This movement compresses the air inside the chamber, forcing it upwards through a narrow passage. As the air travels through this passage, it spins a turbine located in the column above. The rotation of the turbine then powers an electricity generator, converting kinetic energy into electrical energy.

The second diagram (B) shows the reverse airflow process when the wave recedes. As water levels fall in the chamber, air from outside is drawn downwards, flowing through the column and spinning the turbine in the same direction as before. This consistent rotation of the turbine ensures a continuous generation of electricity, driven by the cycle of incoming and outgoing waves.

Overall, the system effectively captures wave energy by utilizing air pressure changes within the chamber, allowing the turbine to produce a steady flow of electricity. This method highlights a sustainable way to harness natural wave motion for energy production.

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