# UPPER VILLAGES CHRISTIAN ACADEMY, INC.

SENIOR HIGH SCHOOL

# DISASTER READINESS AND RISK REDUCTION

SEAT WORK

NAME: *JUSTIN EDRYN M. TABO* GRADE & SECTION: *11- SAPPHIRE STEM* DATE: 03-26-24

Question 1:

Explain the formation process of a tropical cyclone and the conditions required for its development. Answer:

Question 5:

The role of technology and forecasting has its importance because this play critical role by allowing authorities to issue timely warnings and take necessary precautions to mitigate the potential impacts of these powerful storms. Technological advancements and forecasting techniques enable meteorologists to provide early, accurate warnings about tropical storms, allowing communities to evacuate and protect themselves.

The eyewall, a towering ring of thunderstorms, surrounds the eye of a storm, containing the strongest winds and heaviest rainfall. Its strong convection and vertical motion increase the storm's intensity, with wind speeds exceeding 200 km/h.Rain bands, spiral clouds and precipitation bands outside the eyewall of mature tropical storms, extend hundreds of kilometers from the storm's center and can produce heavy rain, damaging winds, and tornadoes, causing flooding and other hazards.The eye of a mature tropical cyclone is a calm circular area with light winds and clear skies, typically 20 to 50 kilometers wide. It forms when air sinks into the storm center, preventing cloud formation and hindering rainfall, making it a defining characteristic of tropical cyclones.



Question 2:

Discuss the potential impacts of a tropical cyclone on coastal regions and inland areas. Answer:

Question 3:

Describe the structure of a mature tropical cyclone, including the eye, eyewall, and rain bands. Answer:

Question 4:

Examine the role of technology and forecasting in predicting the track and intensity of tropical cyclones. Answer:

On inland areas these are the potential impacts, tornadoes can cause significant damage to homes, businesses, and infrastructure, posing a threat to lives and property. Landslides, heavy rainfall can increase the risk of landslides and mudslides that can lead to bury homes, roads, and other infrastructure, and pose dangers to residents. While on coastal region, the potential impacts of a tropical cyclone are, storm surge can inundate coastal areas, causing flooding,erosion, and destruction of coastal infrastructure.this is one of the most significant dangers associated with tropical cyclone. Heavy Rainfall, it leads to freshwater flooding due to the tropical cyclone brings. Wave action, large waves produced by the powerful winds linked to tropical storms may contribute to coastal erosion and flooding.

Tropical cyclone, an intense circular storm that originates over warm tropical oceans and is characterized by low atmospheric pressure, high winds, and heavy rain. the tropical cyclone can develop and intensify, going through various stages such as tropical depression, tropical storm, and eventually reaching hurricane or typhoon strength depending on its location. It form when warm, moist air above the ocean rises due to convection. These are the following simplified explanation of the formation process and the conditions required for its development:Formation Over Warm Oceans,Coriolis Effect,Low Pressure System, Energy Source: Latent Heat of Condensation,Moisture and Instability,Weak Vertical Wind Shear,Divergence Aloft. the specifics of each storm's development can vary due to complex interactions between the atmosphere and ocean.

Evaluate the effectiveness of disaster preparedness and response measures in mitigating the impact of tropical cyclones on vulnerable communities.

Answer:

Disaster preparedness for tropical cyclones depends on factors like preparedness, resources, communication, and storm characteristics. Key measures include early warning systems, evacuation plans, infrastructure resilience, community education, and government policies. Implementing these measures can be challenging due to political and bureaucratic barriers.. Continued efforts to strengthen preparedness, enhance resilience, and address underlying vulnerabilities are essential for reducing the risk and improving the outcomes of tropical cyclones in vulnerable communities.