2024 WASSCE MOCK 2 – SCULPTURE 2
SCULPTURE 2
PAPER 2

1. Definition, Preparation, and Function

a. Sketch Model

- **Definition:** A sketch model is a preliminary representation or prototype of a sculpture usually made from easily malleable materials like clay or wax. It serves as a visual aid for planning and conceptualizing the final sculpture.
- **Preparation:** Sketch models are typically crafted using basic sculpting tools such as clay modeling tools or wax carving tools. They are formed quickly and may not include fine details.
- **Function:** The primary function of a sketch model is to provide the sculptor with a tangible representation of their concept. It helps in visualizing the proportions, composition, and overall design of the sculpture before proceeding to the more detailed stages.

b. An Armature

- **Definition:** An armature is a supportive framework or structure often made of metal wire or other sturdy materials. It is used as a skeleton or internal support system for sculptures, especially those made from materials like clay or wax.
- **Preparation:** Armatures are typically constructed by bending and shaping metal wire into the desired form, following the contours of the intended sculpture. They are secured firmly to a base or platform.
- **Function:** The main function of an armature is to provide stability and structural support to the sculpture during the sculpting process. It helps prevent the sculpture from collapsing or deforming, especially when working with soft or heavy materials.

c. Butterfly

- **Definition:** In sculpture, a butterfly refers to a small metal or wooden wedge-shaped device used to secure two pieces of material together temporarily. It resembles the shape of a butterfly hence the name.
- **Preparation:** Butterflies are typically manufactured or fabricated from metal or wood. They are often kept handy in a sculptor's toolkit.

- **Function:** The function of a butterfly is to hold together cracked or broken pieces of material during the repair or joining process. They provide temporary reinforcement until a more permanent solution such as adhesive or welding can be applied.

2. Notes on Selected Terms

a. Slipstone

- **Definition:** A slipstone is a specialized sharpening stone used primarily for sharpening the edges of carving tools, especially those with curved or irregular profiles.
- **Notes:** Slipstones are typically made from fine-grained materials such as ceramic or natural stones like Arkansas or Japanese waterstones. They are often lubricated with water or honing oil during use to facilitate sharpening.

b. Scrim

- **Definition:** Scrim refers to a coarse, open-weave fabric usually made from cotton or linen. In sculpture, it is commonly used in combination with plaster or other materials for reinforcing or building up structural elements.
- **Notes:** Scrim is soaked in a plaster slurry or other bonding agent and then applied to the sculpture's surface or armature to add strength and stability. It is especially useful in creating large-scale sculptures or in areas requiring additional reinforcement.

c. Key

- **Definition:** In sculpture, a key refers to a protrusion or indentation added to a mold or sculpture component to ensure proper alignment and registration during assembly or casting.
- **Notes:** Keys are essential for ensuring accurate reproduction of sculpture parts and preventing misalignment or shifting during the casting process. They are often created using small sculpting tools or added to the mold design to facilitate assembly.

3. Establishing a Sculpture Enterprise: Factors to Consider

Establishing a successful sculpture enterprise requires careful consideration of various factors, including:

- Market Research: Analyzing the demand for sculptures, identifying target demographics, and understanding market trends.
- Business Plan: Developing a comprehensive business plan outlining the enterprise's goals, objectives, budget, marketing strategies, and revenue projections.
- Studio Space: Securing a suitable workspace equipped with necessary tools, equipment, and facilities for sculpting, casting, and finishing artworks.
- Supply Chain: Establishing reliable sources for raw materials such as clay, plaster, metal, or stone, as well as suppliers for tools, equipment, and packaging materials.
- Skill and Expertise: Building a team of skilled sculptors, artisans, and technicians capable of creating high-quality sculptures and managing various aspects of the enterprise.
- Branding and Marketing: Creating a distinctive brand identity, promoting artworks through exhibitions, galleries, online platforms, and developing partnerships with art dealers, collectors, and institutions.
- Legal and Financial Considerations: Registering the enterprise, obtaining necessary permits and licenses, managing finances, including budgeting, pricing, invoicing, and taxation.
- Networking and Collaboration: Building relationships with other artists, galleries, art organizations, and industry professionals to expand opportunities for collaboration, exhibition, and distribution.

4. Correct Process of Using Plaster of Paris for Casting

To use plaster of Paris for casting using an already prepared plaster mold, follow these steps:

1. Prepare the Mold: Ensure that the plaster mold is clean and dry, free from any debris or contaminants.

2. Apply Release Agent: Brush or spray a suitable release agent such as clay slip, graphite powder, or commercial mold release onto the interior surfaces of the mold to prevent the plaster from sticking.
3. Mix Plaster: In a clean container, mix the plaster of Paris with water according to the manufacturer's instructions until you achieve a smooth, lump-free consistency.
4. Pour Plaster: Carefully pour the mixed plaster into the prepared mold, ensuring even distribution and filling all cavities.
5. Tap and Vibrate: Gently tap the mold or use a vibrating table to remove any air bubbles and ensure that the plaster fills all intricate details of the mold.
6. Cure Plaster: Allow the plaster to cure and set completely according to the recommended drying time provided by the manufacturer.
7. Demold: Once the plaster has fully cured, carefully demold the cast by gently flexing or tapping the mold to release the plaster casting.
8. Finishing: Trim any excess plaster and clean the surface of the casting as needed. Allow the casting to dry completely before further finishing or painting.

5. Occupational Hazards in Wood Carving and Prevention

a. Occupational Hazards:

1. Respiratory Issues: Inhaling wood dust generated during carving can lead to respiratory problems such as asthma, bronchitis, or allergic reactions.
2. Musculoskeletal Injuries: Prolonged carving sessions or poor ergonomic practices can cause strains, sprains, or repetitive stress injuries to the hands, wrists, and back.
3. Eye Injuries: Flying wood chips or particles can pose a risk of eye irritation, scratches, or more severe injuries if proper eye protection is not worn.

b. Prevention:

1. Dust Collection and Ventilation: Use a dust collection system or wear respiratory protection such as a dust mask or respirator to minimize inhalation of wood dust. Ensure adequate ventilation in the workspace.

2. Ergonomic Practices: Maintain good posture, take regular breaks, and use ergonomic tools with cushioned grips to reduce the risk of musculoskeletal injuries. Adjust workbenches and seating to promote proper body alignment.

3. Eye Protection: Wear safety goggles or glasses with side shields to protect the eyes from wood chips, debris, and flying particles. Regularly inspect and replace damaged or scratched eye protection.

6. Methods of Firing Clay Sculpture

Two common methods of firing clay sculpture are:

1. Bisque Firing:
    - Involves firing the clay sculpture in a kiln at a lower temperature (typically around 1650°F to 1940°F or 900°C to 1060°C).
    - The purpose of bisque firing is to remove moisture from the clay and chemically transform it into a durable, porous ceramic material known as bisqueware.
    - After bisque firing, the sculpture can be glazed or decorated with ceramic stains before undergoing a second firing at a higher temperature.
2. Glaze Firing:
    - Involves applying glazes or ceramic coatings to the bisque-fired sculpture and then firing it again in a kiln at a higher temperature (usually around 1830°F to 2340°F or 1000°C to 1280°C).
    - The glaze firing melts the glazes, allowing them to fuse with the ceramic surface and create a smooth, glassy finish. It also further strengthens and vitrifies the clay, making it waterproof and suitable for functional or decorative use.
    - Glaze firing requires careful control of temperature and heating/cooling rates to achieve desired glaze effects and prevent defects such as blistering, cracking, or uneven coverage.