

CBSE – DEPARTMENT OF SKILL EDUCATION

MEDIA – SUBJECT CODE 415

MARKING SCHEME

Class X (Session 2019–2020)

Time: 2 Hours

Max. Marks: 50

General Instructions:

1. *This Question Paper consists of two parts viz. Part A: Employability Skills and Part B: Subject Skills.*
2. **Part A: Employability Skills (10 Marks)**
 - i. *Answer any 4 questions out of the given 6 questions of 1 mark each.*
 - ii. *Answer any 3 questions out of the given 5 questions of 2 marks each.*
3. **Part B: Subject Skills (40 Marks):**
 - i. *Answer any 10 questions out of the given 12 questions of 1 mark each.*
 - ii. *Answer any 4 questions from the given 6 questions of 2 marks each.*
 - iii. *Answer any 4 questions from the given 6 questions of 3 marks each.*
 - iv. *Answer any 2 questions from the given 4 questions of 5 marks each.*
4. *This question paper contains 39 questions out of which 27 questions are to be answered.*
5. *All questions of a particular part/section must be attempted in the correct order.*
6. *The maximum time allowed is 2 hrs.*

PART A: EMPLOYABILITY SKILLS (10 MARKS)

Answer any 4 questions out of the given 6 questions of 1 mark each:

1.	Which of the following methods are used to receive information from the sender through a letter? (d) Writing	(1)
2.	Grooming is a term associated with (c) neat and clean appearance	(1)
3.	Which of the following is not a self-management skill? (b) Bargaining	(1)
4.	What does GPS stand for? (a) Global Positioning System	(1)
5.	What is the aim of entrepreneurship? (c) Both of the above	(1)

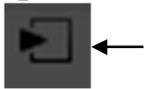
6.	<p>What are some of the environmental changes caused due to modern methods of agriculture? (a) Chemical pollution due to fertilizers</p>	(1)
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Answer any 3 questions out of the given 5 questions of 2 marks each:

7.	<p>What are the five sources of energy available to us? There are 5 fundamental sources of energy : (i) Nuclear fusion in the Sun (solar energy), (ii) Gravity generated by the Earth and Moon, (iii) Nuclear fission reactions, (iv) Energy in the interior of the Earth, and (v) Energy stored in chemical bonds. Most of the energy we use today come from fossil fuels (stored solar energy). But fossils fuels have a disadvantage in that they are non-renewable on a human time scale, and causes other potentially harmful effects on the environment.</p>	(2)
8.	<p>List any four characteristics of entrepreneurship. 1. Ability to take up risks 2. Believe in hard work and discipline 3. Adaptable and flexible to achieve the goals of enhancing quality and customer satisfaction 4. Knowledge of the product and services and their need or demand in the market 5. Financial literacy and money management skills 6. Effective planning and execution.</p>	(2)
9.	<p>List the steps to search for information using a web browser. To see the information on the various websites, you need an Internet Browser. An Internet Browser is an application or a software program on your computer or laptop which helps you visit the various websites. Some examples of browsers are Google Chrome, Mozilla Firefox and Internet Explorer. Searching for information: Do the steps below to search for information on the Internet. - Open an Internet browser - Type the topic, on which you want information, in the search box and hit the Enter key. - The search results having the required information will be displayed. Click Firefox icon to open Firefox Mozilla browser and search for information.</p>	(2)
10.	<p>What are the factors that affect self-confidence? Given below are some factors that affects self-confidence. (a) When we think we cannot do a particular work. (b) When we keep thinking of our past mistakes and feel bad about it, instead of learning from them. (c) When we expect to be successful at the first attempt itself and do not try again. (d) When we are surrounded by people who have a negative attitude, which is reflected in their speech.</p>	(2)
11.	<p>Write down the different types of verbal communication. Give an example for each type. Oral or Spoken Communication: Communication which involves talking. Face-to-face conversation, Talking on a phone Written Communication: Communication which involves written or typed words. Writing letters, notes, email, etc.</p>	(2)

PART B: SUBJECT SKILLS (40 MARKS)

Answer any 10 questions out of the given 12 questions:

12.	Provides quick access to various options related to creating large complex scenes. 1. Scene Assembly	(1)
13.	Opens the current object's shader node in the Attribute Editor 2. Material Attributes	(1)
14.	Allows you to drag UVs directly in the viewport. 1. 3D Grab UV Tool	(1)
15.	In Maya. Materials also called as: 1. Shades	(1)
16.	A color background floods the background of the scene with _____? 1. Solid Color	(1)
17.	You can map a texture to any of the material attributes that appear with which icon of the following? 1. 	(1)
18.	Environment textures are commonly used either as backgrounds for objects in your scene or as _____ maps. 1. Reflection Maps	(1)
19.	Exposure is available only for File texture nodes. 1. True	(1)
20.	The 2D representation of the 3D model (or the UV's) is a _____ Version. 1. Flattened	(1)
21.	Bump maps cannot cast or receive shadows 1. True	(1)
22.	Scratches are like little depressions, you can more easily achieve them with _____ _version 1. 2D	(1)
23.	Because high pass exists as a separate layer, you can adjust the layer's _____ and Blending Modes to control the strength of sharpening over the entire image. 1. Opacity	(1)

Answer any 4 questions out of the given 6 questions of 2 marks each:

24.	Mention the functions of Status Line hotkeys which are F2, F3, F4, F5, F6. Ans. F2 (Modeling) F3 (Rigging) F4 (Animation) F5 (FX) F6 (Rendering)	(2)
25.	What is Bump Maps? Explain in brief. Ans. Bump maps are grayscale textures you map to objects to create the illusion of surface relief on an otherwise flat object.	(2)
26.	What is UV Mapping? Ans. The process of creating explicit UVs for a surface mesh is called <i>UV mapping</i> .	(2)
27.	Mention the Techniques of UV mapping. Ans. <ul style="list-style-type: none">• Automatic UV mapping• Planar UV mapping• Cylindrical UV mapping• Spherical UV mapping• User-defined UV mapping• Best Plane mapping Camera UV mapping - see Planar UV mapping	(2)
28.	What is Diffuse Map ? Explain in brief. Ans. The diffuse map is a tillable (usually) image which gives the color information, but does not contain lighting or height information for the texture.	(2)
29.	What is Displacement Maps? Explain in brief. Ans. Displacement maps are grayscale textures you map to objects to create true surface relief (elevations and depressions) on an otherwise flat object.	(2)

Answer any 4 questions out of the given 6 questions of 3 marks each:

30.	What are Marking Menus ? Ans. Marking menus are used throughout the Maya interface. When you right-click an object, a marking menu appears that lets you select a selection mode and other actions that are in context to the type of object. Some marking menus appear when you hold a key and press a mouse button. Marking menus are very fast for experienced users because once you get used to showing them and the positions of their items, you can select the items using very quick gestures with the mouse or tablet pen, sometimes so fast the entire menu won't even display.	(3)
31.	What is the use of Help Line? Ans. The Help Line gives a short description of tools and menu items as you scroll over them in the UI. This bar also prompts you with the steps required to use a tool or complete a workflow.	(3)

32.	<p>Explain how to create a texture background.</p> <p>Ans.</p> <ol style="list-style-type: none"> 1. In the Environment section of the camera's Attribute Editor (View > Camera Attribute Editor), click the Create button to the right of the Image Plane attribute. Maya creates an image plane and connects it to the camera. 2. Set the Type attribute for the image plane to Texture. 3. Click the texture button for the Texture attribute. The Create Render Node window appears. 4. 4. Select the texture you want to use as a background (for example, an Environment Texture). Maya creates the texture and connects it to the image plane. 	(3)
33.	<p>Explain how to set the position of Image Plane.</p> <p>Ans.</p> <ul style="list-style-type: none"> • Use the Placement attributes to position an image plane relative to the camera. • Use the Placement Extras attributes to control which portion of an image file is visible on the image plane. 	(3)
34.	<p>Explain how to create a Bump map in Maya.</p> <p>Ans. Bump maps are grayscale textures you map to objects to create the illusion of surface relief (elevations and depressions) on an otherwise flat object.</p> <p>With bump maps, depressions and elevations look real because they don't alter the geometry of the surface the way Displacement maps do. Bump maps just change the direction of the surface's normal based on the bump map's Alpha Gain value.</p> <p>Use bump maps to create very shallow reliefs. For example, you can make objects look like they are embossed, have shallow rolling hills, and so on.</p> <p>Because bump maps are not true surface relief, they:</p> <ul style="list-style-type: none"> • cannot cast or receive shadows • cannot be seen if you silhouette the mapped object • take less time to render than displacement maps 	(3)
35.	<p>What is IOR?</p> <p>Ans. The IOR parameter (Index of Refraction) defines the material's Fresnel reflectivity and is by default the angular function used. Effectively the IOR will define the balance between reflections on surfaces facing the viewer and on surface edges.</p>	(3)

Answer any 2 questions out of the given 4 questions of 5 marks each:

36.	<p>Explain Interface overview in Maya with suitable example.</p> <p>Ans: There are a lot of items displayed in the Maya user interface which are as follows:</p> <ol style="list-style-type: none"> 1. Menu Bar: The Main Menu bar appears at the top of the Maya interface directly below the Maya title bar and displays the chosen menu set. Each menu set corresponds to a module within Maya: Animation, Polygons, Surfaces, Rendering, and Dynamics. Modules are a method for grouping related features and tools. 2. Status Line: The Status Line, located directly below the Main Menu bar, contains a variety of items, most of which are used while modeling or working with objects within Maya. Many of the Status Line items are represented by a graphical icon. The icons save space in the Maya interface and allow for quick access to tools used most often. 3. Shelf: The Shelf is located directly below the Status line. The Maya Shelf is useful for storing tools and items that you use frequently or have customized for your own use. You can keep the tools and items you use most frequently in a location that provides handy access. Maya has some of the Shelf items pre-configured for your use. 	(5)
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	<p>4. Workspace: The Maya workspace is where you conduct most of your work within Maya. The workspace is the central window where your objects and most editor panels appear.</p> <ul style="list-style-type: none"> • The panel is labeled persp at the bottom to indicate that you are viewing the Maya scene from a perspective camera view. • The panel has its own menu bar at the top left corner of the panel. These menus allow you to access tools and functions related to that specific panel. • The grid is displayed with two heavy lines intersecting at the center of the Maya scene. This central location is called the origin. The origin is the center of Maya's 3D world, and with all object's directional values measured from this location. <p>5. Channel Box: The Channel Box is the primary, fastest, and most streamlined tool for editing object attributes. It lets you quickly change attribute values, set keys on keyable attributes, lock or unlock attributes, and create expressions on attributes.</p> <p>6. Quick Layout Buttons: The quick layout buttons display just below the <u>Tool Box</u> and let you switch between useful panel layouts</p> <p>7. Toolbox: The Tool Box displays on the left side of the Maya interface by It contains the most commonly-used tools for working in Maya like., Move, Rotate, Scale and Last used tool</p> <p>8. Command Line: The command line lets you type single MEL or Python commands without having to open the Script editor. You can switch between MEL and Python mode by clicking the MEL/Python button. The result from the command appears in the output</p> <p>9. Time and Range Slider: The Time Slider controls the playback range, keys, and breakdowns within the playback range</p>	
37.	<p>How to apply Texture mapping Explain?</p> <p>Ans: To apply a texture to an object, you map the texture to an attribute on the object's material. The attribute to which the texture is connected determines how the texture is used and how it affects the final output.</p> <p>To map a texture to a material using the Attribute Editor</p> <ol style="list-style-type: none"> 1. Select your material in the Hypershade. In the material Attribute Editor, click the map button beside the attribute that you want to connect a texture to. The Create Render Node window appears. 2. Select a texture from the Create Render Node window. <p>If you are selecting a 2D texture, right-click the texture and select a mapping method (Create texture (create normally), Create as projection, Create as stencil). If you do not select a mapping method, the default method (Create texture) is used.</p> <p>If you are selecting the File texture, map to the image file by clicking the browse icon beside the Image Name attribute.</p>	(5)
38.	<p>Explain the use of specular maps.</p> <p>Ans: Some surfaces are shinier than others (for example a wet fish has a shinier surface than a dry leaf). By mapping a texture to the Specular attribute of an object's material, you create a specular map which lets you describe how shine appears on objects (by controlling highlight). Shiny objects reflect light directly; matte objects diffuse light. Specular highlights show the places on the object where the light sources are reflected at consistent angles; reflections on an object show, among other things, light bounced from surrounding objects.</p> <p>Specular highlights depend directly on the view (camera), not the position of the light, like diffuse shading does.</p> <p>The size of a specular highlight on a surface makes the surface look either flat or shiny.</p> <p>Note: Only materials with specular attributes (Anisotropic, Blinn, Phong, and PhongE) have surface highlights. The <i>specular highlight</i> is the white shiny glow on the material.</p>	(5)

39. How to sharpen the images? Explain all its steps in brief.

(5)

Ans: The easy and best technique for sharpening uses Photoshop to create a high pass layer and then layer masks to control where and how much sharpening is applied.

A high pass layer works in the same way an unsharp mask works on film: the high pass layer creates slightly blurry halos around edges in the original image, thus increasing the contrast at edges. The difference between high pass sharpening and most other methods of sharpening is that high pass sharpening does not actually adjust or change any pixels in your original image. Also, because high pass exists as a separate layer, you can adjust the layer's Opacity and Blending Modes to control the strength of sharpening over the entire image. You can then use masks to control where sharpening is applied within the image and to make localized changes in the strength of sharpening.

Another advantage to sharpening with a high pass layer is you can save the layer with the Photoshop file and go back later and change the settings and areas where sharpening has been applied. This is a huge advantage when working with an image that you might finish for web viewing and printing, or printing on different papers.

Process:

1. **Evaluate the Image:** First we need to evaluate the image we are going to sharpen like., where the sharpening is needed and the amount of sharpening is needed.
2. **Stamp New Layer or Duplicate Your Image Layer:** Sharpening is usually the last or almost the last thing you do when preparing an image, and you want to be sure that you are applying sharpening to a finished, complete image. Therefore, before making your sharpening layer, ensure you have a duplicate layer of your completed image. To Stamp New Layer, check that all layers you want included in your final image are visible (turned on). Click on (select) your topmost layer and then stretch your fingers to use Command-Alt Shift-E/Control-Alt-Shift-E to activate the Stamp Visible command and make that stamp a new layer.
3. **Desaturate the High Pass Layer:** A disadvantage to sharpening with a high pass layer is the potential for increasing or adding noise to a photo. With other sharpening tools such as Unsharp Mask, you can control noise problems with adjustments to the different values set in the tool. With the high pass option, you control noise by doing three things:
Ensure your image capture is as clean as possible. This means using a tripod if not shooting at a high shutter speed, choosing the lowest ISO possible, and using the correct exposure. • Deal with any noise while processing your image. • Desaturate the high pass layer. Even when working on a colour image, the colour information in a high pass layer is irrelevant, so we're going to remove that information right from the top to ensure that extra information doesn't add noise.
4. **Apply the High Pass Filter:** To apply the high pass filter to your sharpening layer, go to Filter > Other > High Pass.
This will bring up a dialogue box with a Radius slider. You want to increase the Radius slider (increase the number of pixels affected) until the details in the image just begin to pop. You'll find you need more Radius when you're working with high resolution images. Don't be surprised if you need around 10 to 20 pixels or more. Select OK
5. **Set the Layer's Blending Mode:** Change the layer's blending mode in the blending options drop down menu to Soft Light. As you become more familiar with using high pass sharpening, experiment with Hard Light and Overlay blending modes as well
6. **Adjust the Layer Opacity** You will likely find that you now have a bit more sharpening than you need. That's okay; starting with 100%, adjust the Layer Opacity down to get the amount of sharpening you need. Aim for an opacity that gives you the right amount of sharpening in the area of your image that needs the most sharpening. Add a layer mask by clicking on the Layer Mask icon at the bottom of your Layers window, or by going to Layer > Layer Mask.