एम4.2-आर4: इंट्रोडक्शन टू मल्टीमीडिया
M4.2-R4: INTRODUCTION TO MULTIMEDIA

अवधि: 03 घंटे | **अधिकतम अंक: 100**

DURATION: 03 Hours | **MAXIMUM MARKS: 100**

ओएमआर शीट सं.: OMR Sheet No.:					

रोल नं.: Roll No.: | | | | | | |

उत्तर-पुस्तिका सं.: Answer Sheet No.: | | | | | | |

परीक्षार्थी का नाम:
Name of Candidate: _____; Signature of candidate: _____

परीक्षार्थियों के लिए निर्देश: | **Instructions for Candidate:**

कृपया प्रश्न-पुस्तिका, ओएमआर शीट एवं उत्तर–पुस्तिका में दिये गए निर्देशों को ध्यान पूर्वक पढ़ें।	Carefully read the instructions given on Question Paper, OMR Sheet and Answer Sheet.
प्रश्न-पुस्तिका की भाषा हिन्दी एवं अंग्रेजी में है। परीक्षार्थी किसी भी एक भाषा का चयन कर सकता है। (अर्थात, या तो हिन्दी या अंग्रेजी)	Question Paper is in Hindi and English language. Candidate can choose to answer in any one of the language (i.e., either Hindi or English)
इस मॉड्यूल/पेपर के **दो भाग** है। **भाग एक** में चार प्रश्न और **भाग दो** में पाँच प्रश्न है।	There are **TWO PARTS** in this Module/Paper. **PART ONE** contains **FOUR** questions and **PART TWO** contains **FIVE** questions.
भाग एक "वैकल्पिक" प्रकार का है जिसके कुल अंक 40 है तथा **भाग दो**, "व्यक्तिपरक" प्रकार है और इसके कुल अंक 60 है।	**PART ONE** is Objective type and carries 40 Marks. **PART TWO** is subjective type and carries 60 Marks.
भाग एक के उत्तर, इस प्रश्न-पत्र के साथ दी गई **ओएमआर उत्तर-पुस्तिका** पर, उसमें दिये गए अनुदेशों के अनुसार ही दिये जाने है। **भाग दो** की उत्तर-पुस्तिका में **भाग एक** के उत्तर **नहीं** दिये जाने चाहिए।	**PART ONE** is to be answered in the **OMR ANSWER SHEET** only, supplied with the question paper, as per the instructions contained therein. **PART ONE** is **NOT** to be answered in the answer book for **PART TWO**.
भाग एक के लिए अधिकतम समय सीमा **एक घण्टा** निर्धारित की गई है। **भाग दो** की उत्तर-पुस्तिका, **भाग एक** की उत्तर-पुस्तिका जमा कराने के पश्चात दी जाएगी। तथापि, निर्धारित एक घंटे से पहले **भाग एक** पूरा करने वाले परीक्षार्थी **भाग एक** की उत्तर-पुस्तिका निरीक्षक को सौंपने के तुरंत बाद, **भाग दो** की उत्तर-पुस्तिका ले सकते हैं।	Maximum time allotted for **PART ONE** is **ONE HOUR.** Answer book for **PART TWO** will be supplied at the table when the answer sheet for **PART ONE** is returned. However, candidates who complete **PART ONE** earlier than one hour, can collect the answer book for **PART TWO** immediately after handing over the answer sheet for **PART ONE.**
परीक्षार्थी, उपस्थिति-पत्रिका पर हस्ताक्षर किए बिना अथवा अपनी उत्तर-पुस्तिका, निरीक्षक को सौंपे बिना, परीक्षा हाल नहीं छोड़ सकता हैं। ऐसा नही करने पर, परीक्षार्थी को इस मॉड्यूल/पेपर में अयोग्य घोषित कर दिया जाएगा।	**Candidate cannot leave the examination hall/room without signing on the attendance sheet or handing over his Answer sheet to the invigilator. Failing in doing so, will amount to disqualification of Candidate in this Module/Paper.**
प्रश्न-पुस्तिका को खोलने के निर्देश मिलने के पश्चात एवं उत्तर देने से पहले उम्मीदवार यह जाँच कर यह सुनिश्चित कर ले कि प्रश्न-पुस्तिका प्रत्येक दृष्टि से संपूर्ण है।	After receiving the instruction to open the booklet and before answering the questions, the candidate should ensure that the Question booklet is complete in all respect.

नोट: यदि हिन्दी संस्करण में कोई त्रुटि / विसंगति पाई जाती है, तो उस अवस्था में अँग्रेजी संस्करण ही मान्य होगा।

Note: In case of any discrepancy found in Hindi language, English version will be treated as final.

जब तक आपसे कहा न जाए तब तक प्रश्न-पुस्तिका न खोलें।

DO NOT OPEN THE QUESTION BOOKLET UNTIL YOU ARE TOLD TO DO SO.

Hkkx ,d / PART ONE

¼lHkh iz'uksa ds mÙkj nsa½ / (Answer all the questions)

1. izR;sd iz'u ds mÙkjksa ds dbZ fodYi uhps fn, x, gSaA ,d lcls mi;qDr fodYi pqusa vkSj mls fuEufyf[kr funsZ'kksa ds vuqlkj iz'u i= ds lkFk miyC/k djk, x, ^^vks,evkj mÙkj i=d esa ntZ djsaA**

Each question below gives a multiple choice of answers. Choose the most appropriate one and enter in the "OMR" answer sheet supplied with the question paper, following instructions therein.

(1x10)

1.1 ,d izksxzke ,d fiDlsy ds fy, 8 fcV dks vlkbu djrk gS] rks og fiDlsy ---------- rjg ds jaxks dks iznf'kZr dj ldrk gSA / When a program assigns 8 bits to a pixel, that pixel can display one of upto _____ color.

A) 32
B) 64
C) 256
D) 1024

1.2 ,d daI;wVj ij /ofu ---------- ds :i esa fjdkWMZ dh tkrh gS / Sound as recorded on a computer is

A) analoged
B) digitized
C) animated
D) encoded

1.3 eYVhehfM;k esa ekSfydrk dks izekf.kr djus ds fy, ,d Vwy dk iz;ksx fd;k tkrk gSA / Is a tool used in multimedia to authenticate the originality?

A) Watermark
B) Place Holder
C) Hyperlink
D) Background

1.4 ,eihbZth dk D;k vFkZ gS\ / What does MPEG stand for?

A) Motion Picture Experts Gang
B) Modern Picture Experts Group
C) Motion Picture Experts Group
D) Modern Picture Experts Gang

1.5 ,d izstsaVs'ku esa VsDLV dyj ---------- dyj ds lkFk dkWUVªkLV gksuk pkfg,A / The text color in a presentation should contrast with the _____ color.

A) CPU
B) frame
C) stack
D) background

1.6 fuEu esa ls dkSu lk ,d isafVax izksxzke vkSj best ,fMfVax izksxzke gS\ / Which of following is a painting program and image editing program?

A) Designer
B) FreeHand
C) Illustrator
D) Photoshop

1.7 tsihbZth dEizs'ku rduhd gS / JPEG compression technique is

A) Lossy
B) LossLess
C) Run Length Coding
D) buesa ls dksbZ ugha / None of the above

1.8 jkLVj besftl ds :i esa Hkh tkuk tkrk gS / Raster images are also known as

A) bitmap images
B) vector images
C) clip art images
D) multimedia images

1.9 ,d eYVhehfM;k izstsaVs'ku gks ldrk gS\

i) Linear
ii) Non-linear

A) dsoy i)
B) dsoy ii)
C) nksuksa i) vkSj ii)
D) buesa ls dksbZ ugha

A Multimedia presentation can be?

i) Linear
ii) Non-linear

A) Only i)
B) Only ii)
C) Both i) and ii)
D) None of the above

1.10 osDVj besftl ---------- gS

ROUGH WORK SPACE:

A) fiDly dh jpuk
B) fcanqvksa ds :i esa jfpr
C) Qkbyksa ds :i esa jfpr
D) mijksDr lHkh

Vector images are
A) Composed of Pixels
B) Composed as Dots
C) Composed as Files
D) All of the above

2- uhps fn, x, izR;sd fooj.k ;k rks lR; ;k vlR; gSA ,d lcls mi;qDr fodYi pqusa vkSj mls fuEufyf[kr funsZ'kksa ds vuqlkj iz'u i= ds lkFk miyC/k djk, x, ^^vks,evkj mÙkj i=d esa ntZ djsaA (1x10)**

2.1 vki Illustrator ;k Corel Draw dk mi;ksx dj eq[; :i ls jkLVj izdkj ds xzkfQDl cuk ldrs gSaA
2.2 ,d WAV Qkby QkWesZV dh rqyuk esa ,d ,eih3 Qkby QkeZsV dk Qkby lkbt NksVk gksrk gSA
2.3 eYVhehfM;k VsDLV vk/kkfjr rRoksa dks 'kkfey dj ldrs gSaA
2.4 fcVeSi besftl dk Qkby lkbt, osDVj besftl ds Qkby lkbt ds leku gksrk gSaA
2.5 ,d ekud Lrj rd, /ofu dh vkokt dks ykus ds fy,, mldks ,MtLV djus dh izfØ;k dks ifjek.khdj.k dgrs gSA
2.6 .MOV ,d ohfM;ks Qkby ,DlVsa'ku gSA
2.7 ,d xzkfQd best dh Qkby dk uke tree.eps gSA bl Qkby esa ,d fcVeSi best gSA
2.8 tsihth ,d ohfM;ks Qkby ,DlVsa'ku esa ls ,d gSA
2.9 eYVhehfM;k mRiknu dh izfØ;k esa u dsoy O;fDrxr ?kVdksa dk mRiknu] cfYd ,d vkWFkfjax Vwy ds mi;ksx ds mu ?kVdksa dk ,dhdj.k Hkh 'kkfey gSA
2.10 eYVhehfM;k dh dfe;ksa esa ls ,d vuqdwyu'khyrk gSA

ROUGH WORK SPACE:

2. Each statement below is either TRUE or FALSE. Choose the most appropriate one and enter your choice in the "OMR" answer sheet supplied with the question paper, following instructions therein. (1x10)

2.1 Using Illustrator or CorelDraw you can create mainly raster type of graphics.

2.2 A WAV file format has a smaller file size than a MP3 file format.

2.3 Multimedia may include text-based elements.

2.4 The file size for bitmap images is similar to the file size for vector images.

2.5 The process of adjusting the volume of a sound to bring it to a standard level is called quantization.

2.6 .MOV is a video file extension.

2.7 A graphic image file name is tree.eps. This file is a bitmap image.

2.8 JPG is one of the video file extensions.

2.9 Multimedia production process involves not only the production of individual components but also integration of those components using an authoring tool.

2.10 One of the disadvantages of multimedia is adoptability.

ROUGH WORK SPACE:

3- dkWye X esa fn, x, ‘kCnksa vkSj okD;ksa dk feyku dkWye Y esa fn, x, fudVre lacaf/kr vFkZ @ ‘kCnksa @ okD;ksa ls djsaA muesa fn, x, vuqns’kksa dk ikyu djrs gq, vius fodYi iz’u i= ds lkFk fn, x, ^^vks,evkj mÙkj i=d esa ntZ djsaA**

¼1x10½

X		Y	
3.1	xzkfQDl ls izR;sd fiDlsy dks CySd] OgkbV ;k xzs jax ds ,d 'ksM ds :i esa ,d daI;wVj ij fn[kk;k tk ldrk gSA	A.	,eihbZth
3.2	,d LØhu ij fiDly dh MsaflVh	B.	CySd
3.3	,d ekWuhVj ij jkW esa OgkbV] CySd ;k dyj O;ofLFkr dk ,d NksVk fcanq	C.	jst+ksY;w'ku
3.4	izfØ;k dEI;wVjhÑr xzkfQDl esa tSXM ,t dks gVkus ds fy, iz;ksx fd;k tkrk gSA	D.	vkWfM;ks MsVk dEizs'ku
3.5	nwjlapkj lsokvksa ij okLrfod le; esa vkokt vkSj ohfM;ks Vªkaliksf VZax	E.	fLizV
3.6	vLFkk;h LVksjst Lisl dk mi;ksx Qkby ds ml lsxesaV ds fy, mi;ksx fd;k tkrk gS tks Bhd rjg pyrk gSA	F.	,aVh ,fy,flax
3.7	CMYK esa K dk vFkZ gS	G.	cQj
3.8	,d ,fuesfMV vkWCtsDV ds :i esa tkuk tkrk gS	H.	fiDly
3.9	Lihp ,udksfMax dk ,d egRoiw.kZ oxZ gS	I.	fofM;ks dkWUÝsafla x
3.10	,d ohfM;ks LVSaMMZ	J.	vkWFkfjax
		K.	Xkzs&Ldsy
		L.	MCY;w,oh
		M.	,p,lch

4- uhps fn, x, izR;sd okD; esa uhps nh xbZ lwph ls ,d ‘kCn ;k okD; dks [kkyh LFkku esa yxk,aA lcls mi;qDr fodYi pqusa vkSj mls fuEufyf[kr vuqns’kksa ds vuqlkj iz’u i= ds lkFk fn, x, ^^vks,evkj mÙkj i=d esa viuk fodYi ntZ djsaA**

¼1x10½

A.	baVjsDVhfoVh	B.	Ekks'ku ohfM;ks	C.	okLrfod le;
D.	fMft+Vy vkWfM;ks Vsi	E.	fcVeSIM	F.	30
G.	Ckzkmt+j	H.	foDVj	I.	60
J.	vkWfM;ks	K.	V~ohfuax	L.	,evkbZMhvkbZ

ROUGH WORK SPACE:

M.	Vªw Vkbi	N.	¶ys'k		

4.1 vki ,d best dk vkdkj c<+kuk @ de djuk pkgrs gSa tks DokfyVh esa fcuk fdlh uqdlku ds vius ewy vkdkj ls vyx gS rks ml best dks ---------- QkWesZV esa gksuk pkfg,A

4.2 ---------- Ýse ds chp esa cukrs gaS tc vki ,uhes'ku ds 'kq:vkrh vkSj var ds fcanq cukrs gaSA

4.3 ---------- ,d ekud baVjQsl gS tks baLVªwesaV vkSj lkmaM lkslZ ds fy, dekaM Hkstus ds fy, iz;ksx fd;k tkrk gSA

4.4 isafVax izksxzke ---------- xzkfQDl cukrs gSaA

4.5 tc dqN lkexzh ,d gh le; ij fMLlys dh tkrh gS] tc og cukbZ xbZ gS] ;k baiksVZ dh xbZ gS rks bls ---------- dgrs gSaA

4.6 ---------- ,d lkW¶Vos;j izksxzke gS ftlesa ekdZ MkWD;wesaV dh o;k[;k dh tkrh gS ¼tSls ,pVh,e,y½ vkSj bUgsa dEl;wVj LØhu ij fotqvyh izLrqr fd;k tkrk gSA

4.7 osc ist esa iz;ksx ds fy, 2 Mh ,uhes'ku cukus ds fy, iz;ksx fd, x, yksdfiz; lkW¶Vos;j dk uke ---------- gSA

4.8 ---------- ,d fMftVy fjdkWfMZax vkSj lyscSd ehfM;e gSA

4.9 ,d czkWMdkLV @ ,uVh,llh ohfM;ks dks vPNh rjg pykus ds fy, ---------- ,Qih,l dh t:jr gksrh gSA

4.10 ---------- QkWUV osDVksfj;y Mªkabx dk lewg gSA bUgsa xq.koÙkk dh gkfu ds fcuk c<+k;k tk ldrk gSA

ROUGH WORK SPACE:

3. Match words and phrases in column X with the closest related meaning/ word(s)/phrase(s) in column Y. Enter your selection in the "OMR" answer sheet supplied with the question paper, following instructions therein. (1x10)

X		Y	
3.1	Graphics that allow each pixel to be shown on a computer as black, white or a shade of grey	**A.**	MPEG
3.2	The density of pixels on a screen	**B.**	Black
3.3	a tiny dot of white, black, or color arranged in rows on a monitor	**C.**	Resolution
3.4	Process used to remove jagged edges in computerized graphics	**D.**	audio data compression
3.5	Transporting real-time voice and video over telecommunications services	**E.**	Sprite
3.6	temporary storage space is used for a segment of the file so that data continues to flow smoothly	**F.**	Anti aliasing
3.7	The K in CMYK stands for	**G.**	Buffer
3.8	An animated object is referred as a(n)	**H.**	Pixel
3.9	Speech encoding is an important category of	**I.**	Video conferencing
3.10	A video standard	**J.**	Authoring
		K.	Gray-Scale
		L.	WAV
		M.	HSB

4. Each statement below has a blank space to fit one of the word(s) or phrase(s) in the list below. Choose the most appropriate option, enter your choice in the "OMR" answer sheet supplied with the question paper, following instructions therein. (1x10)

A.	interactivity	**B.**	motion video	**C.**	Real time
D.	Digital Audio Tape	**E.**	Bitmapped	**F.**	30
G.	Browser	**H.**	Vector	**I.**	60
J.	audio	**K.**	Tweening	**L.**	MIDI
M.	True Type	**N.**	Flash		

4.1 If you want to enlarge/reduce an image size which differs from its original size without loss in quality then that image should be in _____ format.

4.2 _____ creates in-between frames when you create the start and end points of the animation.

4.3 _____ is a standard interface that is used to send commands to instrument and sound source.

4.4 Painting programs create _____ graphics.

4.5 When something is displayed at the same time as it is created, accessed, or imported, it is known as _____.

4.6 A _____ is a software program that interprets mark document (such as HTML) and renders them visually on computer screens.

4.7 _____ name of popular software used for creating 2D animation for use in web pages.

4.8 _____ is a digital recording and a playback medium.

4.9 A broadcast / NTSC video requires _____ FPS for it to play smoothly.

4.10 A(n) _____ font is a group of vectorial drawings. They can be scaled with no loss of quality.

ROUGH WORK SPACE:

Hkkx nks / PART TWO

¼fdUgha pkj iz'uksa dk mÙkj nsa½/(Answer any FOUR questions)

5.

a) eYVhehfM;k esa fuEufyf[kr gkMZos;j dEiksusaV~l ds iz;ksx dks le>k,aA
   i) Ldsuj
   ii) ohfM;ks dSIpj dkMZ
   iii) lkm.M dkMZ

b) anti-aliasing dk o.kZu djsaA xzkfQDl ds fy, 'Anti-aliasing' vIykb djus ds ykHkksa dk o.kZu djsaA

a) Explain the use of the following hardware components in multimedia.
   i) Scanner
   ii) Video Capture Card
   iii) Sound Card

b) Define anti-aliasing. Describe the advantages of applying 'Anti-aliasing' to graphics.

(9+6)

6.

a) ohfM;ks dEizs'ku dh fofHkUu rduhdh iz;ksx ds ckjs esa laf{kIr esa crk,aA

b) Codec D;k gS\ le>k,a fd ,d Codec dSls dk;Z djrk gSA

c) eYVhehfM;k daVsaV ds fodkl ds fy, ekud egRoiw.kZ D;ksa gSa\ ,eihbZth ds ekud D;k gSa\

a) Briefly explain about the different techniques used for video compression.

b) What is Codec? Explain how a Codec functions.

c) Why are standards important for developing multimedia content? What are MPEG Standards?

(5+5+5)

7.

a) ,d ohfM;ks ds laca/k ds lkFk fuEu inksa dk o.kZu djsa %
   i) f¶ydj
   ii) tsihbZth dEizs'ku
   iii) jslksY;w'ku

b) eYVhehfM;k esa iz;ksx ds fy, 'kwfVax vkSj ,fMfVax ohfM;ks ds ikap fopkjksa dh lwph cuk,aA

c) eYVhehfM;k izksMD'ku esa ,evkbZMhvkbZ vkSj fMftVy vkWfM;ks dk mi;ksx dh rqyuk djsa vkSj fo"kerk crk,aA

a) Define the following terms with respect to a video:
   i) Flicker
   ii) JPEG Compression
   iii) Resolution

b) List FIVE considerations in shooting and editing video for use in multimedia.

c) Compare and contrast the use of MIDI and digitized audio in multimedia production.

(6+4+5)

8.

a) Authoring System D;k gS\ Macromedia Director dh fo'ks"krkvksa dks le>k,aA

b) f'k{kk vkSj eauksjatu ds {ks= esa eYVhehfM;k ds vuqiz;ksx dks foLrkj ls le>k,aA

c) fo'ks"k :i ls cSaMfoM~Fk b'kw vkWQlsV djus ds fy,] ,d osc vk/kkfjr eYVhehfM;k flLVe ds fodkl esa ,sls fofHkUu pj.k D;k gSa tks fd mBk, tkus pkfg,\

a) What is Authoring System? Explain the features of Macromedia Director.

b) Explain in detail the application of Multimedia in the field of EDUCATION and ENTERTAINMENT.

c) What are the various steps taken in development of a web based multimedia systems, particularly to offset bandwidth issues?

(5+6+4)

9. buds chp varj crk,a %

a) Tweening vkSj Morphing

b) 2D vkSj 3D animations

ROUGH WORK SPACE:

c) Lossy vkSj LossLess Compression

Differentiate between:

a) Tweening and Morphing

b) 2D and 3D animations

c) Lossy and LossLess Compression

(5+5+5)

*****

ROUGH WORK SPACE: