NEW DELHI

NATIONAL COUNCIL OF VOCATIONAL AND RESEARCH TRAINING

NEWDELHI-110058

PHOTOGRAPHY INDUSTRY SECTOR

Course Code: PHO - 997

CERTIFICATE IN PROFESSIONAL PHOTOGRAPHY

DETAILED SYLLABUS FOR VOCATIONAL TRAINING PROGRAMME

COURSE TITLE	**CERTIFICATE IN PROFESSIONAL PHOTOGRAPHY**
COURSE CODE	**PHO 997**
MEDIUM	**ENGLISH**
QUALIFICATION	**10th Pass**
DURATION	**ONE YEAR**
CLASS TIMES	**10:00am – 04:00pm**

MARK ALLOTMENT	
THEORY	**300 Marks**
PRACTICAL	**200 Marks**
INTERNAL	**100 Marks**
TOTAL MARKS	**600 Marks**
PASSING MARKS	**40/ 100**

CERTIFICATE IN PROFESSIONAL PHOTOGRAPHY	
PAPER I	**DIGITAL PHOTOGRAPHY**
PAPER II	**INDOOR AND OUTDOOR STILL PHOTOGRAPHY**
PAPER III	**VIDEOGRAPHY**

PAPER I DIGITAL PHOTOGRAPHY

UNIT 1

Introduction to Digital Photography

1. Understanding film and paper photography
2. Learning about the digital revolution
3. Advantages and disadvantages of digital photography over film photography
4. Computers as photographic tools
5. How photos are used today.

UNIT 2

Digital Basics

1. Digital image method of storing and processing digital image**:**Raster and Vector method
2. Representation of digital image**:** Resolution – Pixel Depth – PixelAspect Ratio – Dynamic Colour Range – File Size – Colour Models – Image Compression – File Formats – Calculating image resolution for outputs.

UNIT 3

Digital Platform

1. Hardware and System Software
2. Windows Operating System
3. Concept of Internet
4. Image transportation through floppy, CD, zip and Internet.

UNIT 4

Digital Capture

1. Digital Image formation – Image Sensors – Different Capturing Method**:** Digital camera – Scanner – Frame Grabber

2. DIGITAL CAMERA**:** Understanding how digital cameras work – Digital camera types**:** Floppy Disc type, Flash Card type, Hard Disc type – Overview of current digital cameras.

UNIT 5

Scanning and Image Editing

1. SCANNING**:** Scanners as input devices- Workingof a Scanner– Scanning procedure – Scanning resolution.

2. IMAGE EDITING**:** Image editing through image editing softwares like Adobe Photoshop – Adjustment of Brightness, Contrast, Tonal and Colour Values – Experimenting with Level and Curve.

UNIT 6

Digital Retouching & Image Enhancement

1. Image size – Resolution – Selection tools and techniques – History – Retouching tools – Layers – Photo mounting techniques – Incorporation of text into picture.

2. Digital Manipulation**:** Applying selective effects to images and filters with masks and different digital darkroom effects.

UNIT 7

Digital Output

1. Placing photos in other documents – Using photos on the web.
2. Printers as output devices – Different types of Print, Proofing, Photo quality printing.
3. How can a digital image be printed?

PAPER II INDOOR AND OUTDOOR STILL PHOTOGRAPHY

UNIT 1 SPECIAL FILTERS

1. Colour sensitivity of film, types of filter, filter factors, contrast and density of filters and its definitions.

2. General ND, 80B, 81A, 85B, CC, IR, Polarized, Heat filter, dichroic, graduated, fog, contrast and correction-their classification, working principles, uses and available models.

UNIT 2 OBJECT LIGHTING

1. Type of object lighting: Daylight, Artificial light and their combination — ANGLE

UNIT 3 EXPOSURE METER

1. Types, function and use (methods of using incident and reflected type meters) — Selection of shutter speed and aperture — Manual exposure setting method — Selection of exposure in case of varying / combined illumination.

UNIT 4 PHOTO COPYING

1. Copying technique
2. PHOTO COPYING SET UP**:** Stand, lighting, cameras, specification and uses.
3. SLIDE COPIER**:** Types, specification and uses.

UNIT 5 SPECIAL SHOOTING TECHNIQUES

1. Definition, camera lens, additional equipment, filter, light, film,accessories, positioning, depth of field, exposure and precaution for:Photo macrography – Photo micrography – High speed Photography with motor driven camera – Underwater Photography – Medical Photography – Astronomical Photography – Infra Red (IR) Photography – Ultra Violet (UV) Photography – Forensic Photography – Strobe light Photography Multiple exposure.

UNIT 6 PRESS PHOTOGRAPHY & ETHICS

PAPER III VIDEOGRAPHY

UNIT 1

Introduction to television

1. Network from TV studio to home receiver.
(Earth station via satellite-transponder to home receiver).
2. Foot print area, cable television network, interactive television.
3. Direct to Home video(DTH)
4. Internet, web video, modulation and bands (VHF,UHF)

UNIT 2

ELECTRONIC IMAGE

1. Different video encoding system (PAL, NTSC, SECUM).
2. Different types of video signal, composite, Y/C, component (analogue
3. Luminance and chrominance, S/N ratio of a video signal.

UNIT 3

SCANNING: Interlace and progressive

1. Interlace scanning (monochrome and colour),blanking, chroma Sub-carrier, line waveform.
2. Progressive scanning: Band width and resolution.

UNIT 4

DIGITAL SIGNAL PROCESSING (DSP)

1. Sampling, quantization, encoding.

2. Compression: Discrete Cosine Transform (DCT), MPEG-2

UNIT 5

VIDEO FORMATS (analogue and digital)

1. U-matic (High & Low), Betacam S-VHS and Hi-8 (PRO) Comparative Study.
2. Digital video formats :
3. DV Family:DV (Mini and standard) DVCAM, DVCPRO.
4. Superior formats: DigiBeta,DVCPRO50,Digital-S(D-9)
5. Post production format: D-1, D-2, D-3, D-5, etc.

PRACTICAL:

Digital Photography Lab

1. To be acquainted with Digital Studio-Camera, Lenses-Prime lens, Zoom Lens, Studio Lights with Umbrella, Diffuser, Reflector, Tripod, Backdrops etc.
2. To be acquainted with the Digital Darkroom-Computer, Application Software and Windows platform for working with digital imaging.
3. To capture or to record images by digital still camera:

Learning work-around for camera setting – Focus workaround – Exposure work-around – Taking / Shooting by using built in flash light – Studio light and table top lighting.

4. Shooting of different indoor subjects like Passport, Portrait, Article, Still life subjects
5. To scan images by flatbed scanners through the scanning software like Adobe Photoshop and others.
6. To import or to open the scanned images as a Photoshop file.
7. To edit images by Adobe Photoshop (Editing image will include adjustment of image size, resolution, brightness/ contrast, colour and tonal correction by level and curve).
8. To use different retouching tools and filters, incorporation of text with picture,restoration of B&W and colour pictures.
9. To save and transport the captured pictures. (Image transportation will include getting images from the camera to the computer through floppy, CD, zip and Internet)
10. To generate print after editing.
11. To place photos into other documents.

INDOOR & OUTDOR STILL PHOTOGRAPHY Lab

Part - I

(a) To undertake demonstration of the uses of different types of light (natural & artificial).

(b) To practice taking OUTDOOR photographs in B&W in the following conditions**:**

Landscapes – Street / Building – Sculpture – Insect / Animal movement – Industrial plant (outside view) – Human figure (close up / long shot / model photography) etc.

(c) To practice taking INDOOR photographs in B&W in different environments such as Copying, Passport, Portrait etc.

Part – II

a) To undertake demonstration of the uses of different types of light (natural & artificial light).

b) To practice taking OUTDOOR photographs in COLOUR in the following conditions:
Landscapes – Street / Building – Sculpture – Insect / Animal movement – Industrial plant (outside view) – Human figure (close up / long shot / model photography) etc.
c) To practice taking INDOOR photographs in COLOUR in different environments such as Slide copying, Passport, Portrait, Strobe light photography, photography on transparency.

Professional Practice (Videography)
Acquaintance with video equipment:
1. Digital video cameras, tripod, tape,VTR, Camcorder,Monitor.
2. Set up a single camera unit: Black balance and White balance, Adjustment of viewfinder and monitor, Familiarization of incamera filters and other in-camera controls, Day-for-night Videography by manipulation of white balance.
3. Operational practice of various camera movements.

Reference Books:

1. Digital Photography-A hands on Introduction by Phillip Krejcarek - Delmer Publishers
2. Digital for photographers by Adrian Davies and PhillFennessy - Focal Press
3. Understanding Digital Cameras by Jon Torrant - Focal Press
4. Teach Yourself Digital Photography in 14 Days by Carla Rose - Techmedia, 1997
5. An Introduction to Digital Photo Imaging by Agfa - Agfa, 1994
6. An Introduction to Digital Scanning by Agfa - Agfa, 1994
7. Adobe Photoshop CS6 Bible by Lisa DaNaeDayley, Brad Dayley - Wiley India
8. Photoshop CS5 in Simple Steps by Kogent Learning - Wiley India
9. Photoshop CS5 Bible by Dayley - Wiley India
10. Advance Photography - M. Langford
11. Applied depth of field - Blaker
12. Landscape photography - H. Angel
13. Photomacrography: an introduction - W. White
14. Visual aids and photography in education - Langford
15. Colour photography in practice - Spencer's
16. Applied photography - Arnold
17. Encyclopaedia of photography - Focal
18. Manual of photography - Jacobson
19. Manual of photography - Cox
20. Ilford Manual of Photography - Mitchell
21. Fundamentals of photography - Boucher
22. Fundamentals of Photographic Theory - James
23. Manual of Photography - Jacobson
24. A Guide to Night Photography - Woolley